TERMINAL EQUIPMENT VERIFICATION SUMMARY

Report No. HK08020363-1(R1)
Superseded report no. HK08020363-1 dated March 31, 2008

☐ Electric household products ☒ ITE ☐ Other _____

Model : CL-3333	Applicant: Xingtel Xiamen Electronics Co., Ltd. Xingtel Building, Chuangxin Road, Torch Hi-Tech, Industrial District, Xiamen, China
Product Description : DECT Phone	Sample Receipt Date: February 11, 2008
☒ 1st TEST ☐ 2nd TEST (after modification)	ALL TESTS WERE CONDUCTED IN ACCORDANCE WITH: * ETSI ES 203 021-1 v2.1.1 (2005-08) * ETSI ES 203 021-2 v2.1.2 (2006-01) * ETSI ES 203 021-3 v2.1.2 (2006-01) * TBR 38 : 1998

Test Result	ok	not ok	See Remark	Test Result	ok	not ok	See Remark
ETSI ES 203 021-1	☒	☐	☐	ETSI ES 203 021-3	☒	☐	☐
ETSI ES 203 021-2	☒	☐	☐	TBR 38 : 1998	☒	☐	☐

When determining the test conclusion, the Measurement Uncertainty of test has been considered.

Prepared and Checked by:

Sign On File
Cheung Ho Yin, Danny
Engineer

Approved By:

Digitally signed by Leung Wai Leung, Tommy
Location: Intertek Testing Services Hong Kong Ltd.

Leung Wai Leung, Tommy
Senior Manager

April 24, 2008 ***Date***

- The test report only allows to be revised within three years from its original issued date unless further standard or the requirement was noticed.
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Report No.: HK08020363-1(R1)

Results Conclusion
(with Justification)

RE: Terminal Equipment Testing On the DECT Phone,
Model: CL-3333

On February 19, 2008 to March 28, 2008 , we tested the DECT Phone, Model: CL-3333, to determine if it was in compliance with the relevant standards as marked on the Verification Summary. We found that the unit met the requirement of ETSI ES 203 021-1, ETSI ES 203 021-2 and ETSI ES 203 021-3 and TBR 38 standards when tested as received.

The test results of ETSI ES 203 021-1, ETSI ES 203 021-2, and ETSI ES 203 021-3 and TBR 38 were included in Appendix 1 of 47 pages and 2 of 36 pages respectively. Please address all questions and comments concerning this report to Cheung Ho Yin, Danny, Engineer, or Leung Wai Leung, Tommy, Senior Manager.

The production units are required to conform to the initial sample as received when the units are placed on the market.

Intertek Testing Services Hong Kong Ltd.
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TEST REPORT

ACCORDING TO:

ETSI ES 203 021 -1 V2.1.1 (2005-08)

ETSI ES 203 021 -2 V2.1.2 (2006-01)

ETSI ES 203 021 -3 V2.1.2 (2006-01)

Access and Terminals (AT);

Harmonized basic attachment requirements for Terminals for connection to analogue interfaces of the Telephone Networks;

Update of the technical contents of TBR 021, EN 301 437, TBR 015, TBR 017;

FOR:

DECT Phone

CL-3333

Report ID: HK08020363-1(R1)_ETSI ES 203 021 (Analog TE).doc
Date of Issue: 2/22/2008

Table of contents

1 Client information

Client name:	Xingtel Xiamen Electronics Co., Ltd.
Address:	Xingtel Building, Chuangxin Road, Torch Hi-Tech, Industrial District, Xiamen, China
Telephone:	+86-592-5625929
Fax:	+86-592-6037860
E-mail:	belinda@xingtel.com
Contact name:	Simon Liu

2 Equipment Under Test

Product name:	N/A
Product type:	DECT Phone
Model(s):	CL-3333
Serial number:	N/A
Receipt date	2/11/2008

3 Manufacturer information

Manufacturer name:	Xingtel Xiamen Electronics Co., Ltd.
Address:	Xingtel Building, Chuangxin Road, Torch Hi-Tech, Industrial District, Xiamen, China
Telephone:	+86-592-5625929
Fax:	+86-592-6037860
E-Mail:	belinda@xingtel.com
Contact name:	Simon Liu

4 Test project performance

Project ID:	HK08020363-1(R1)
Location:	Intertek Testing Services Hong Kong Ltd. 2/F, Garment Centre, 576 Castle Peak Road, Kowloon, Hong Kong
Test started:	2/19/2008
Test completed:	2/22/2008
Test specification(s):	ETSI ES 203 021 -1 V2.1.1 (2005-08) ETSI ES 203 021 -2 V2.1.2 (2006-01) ETSI ES 203 021 -3 V2.1.2 (2006-01) Access and Terminals (AT); Harmonized basic attachment requirements for Terminals for connection to analogue interfaces of the Telephone Networks; Update of the technical contents of TBR 021, EN 301 437, TBR 015, TBR 017;
Test suite:	ETSI ES 203 021 (Analog TE)

5 Test report summary

Testing was completed against all relevant requirements of the test standard. The results obtained indicate that the product under test complies in full with the requirements tested.

The test results relate only to the items tested.

A summary of the test status of the product under test with respect to each test requirement of the standard is provided in section 10 on page 7 of this report.

Detailed test results are presented in section 11 following page 8 of this report.

	Name and Title	**Date**	**Signature**
Tested by:	Cheung Ho Yin, Danny Engineer	28 March 2008	Sign On File
Approved by:	Leung Wai Leung, Tommy Senior Manager	28 March 2008	Sign On File

6 EUT description

DECT Phone

7 Test laboratory description

Intertek Testing Services Hong Kong Ltd.

8 Test equipment used

Description	Model	S/N	Hardware Rev.	Software Rev.	Last Calibration
Telecom Conformance Analyzer	Hermon Laboratories TCA 8200	8750	A4.04	2.2.35	12/7/2006 04:10:34

9 Requirement conditions table

Condition	Applies
Is the TE intended the connection to the PSTN?	Yes
Is the TE intended to have a connection to earth?	No
Is the TE intended to be connected as a single terminal?	No
Is the TE intended to be in loop state?	Yes
Is the TE intended for call answer?	Yes
Is the TE intended for call set-up?	Yes
Is the TE intended for dialling with DTMF?	Yes
Is the TE intended for automatic dialling without dial tone detection?	No
Is the TE intended for automatic dialling with dial tone detection?	No
Is the TE intended for use in receiving mode?	Yes
Is the TE intended for use in transmitting mode?	Yes
Is the TE only intended to function on lines that provide more than 18mA of line current?	No
Is the TE intended for making internally generated automatically repeated call attempts?	No
Is the TE intended for automatically controlled signalling tone duration?	Yes
Is the TE intended for automatically controlled signalling pause duration?	Yes
Is the TE intended for Pulse Dialing?	Yes
Is the TE intended for Register Recall?	Yes

10 Test results summary

Test	Status
ETSI ES 203 021-2 V2.1.2 (2006-01)	
4.1 Impedance unbalance about earth	
4.1.1 Quiescent state	Not required
4.1.2 Loop steady state	
4.1.2.1 Longitudinal conversion loss	Not required
4.1.2.1 Longitudinal conversion loss (loop current > 18 mA)	Not required
4.1.2.2 Output signal balance	Not required
4.1.2.2 Output signal balance (loop current > 18 mA)	Not required
4.2 Sending level limitations	
4.2.1 Mean sending level	Pass
4.2.1 Mean sending level (loop current > 18 mA)	Not required
4.2.2 Instantaneous voltage	Pass
4.2.2 Instantaneous voltage (loop current > 18 mA)	Not required
4.2.3 Sending level in a 10 Hz bandwidth	Pass
4.2.3 Sending level in a 10 Hz bandwidth (loop current > 18 mA)	Not required
4.2.4 Sending level between 4,3 kHz and 200 KHz	
4.2.4.1 Sending level between 4,3 kHz and 200 KHz during DTMF dialling	Pass
4.2.4.1 Sending level between 4,3 kHz and 200 KHz during DTMF dialling (loop current > 18 mA)	Not required
4.2.4.2 Sending level between 4,3 kHz and 200 KHz during communication	Pass
4.2.4.2 Sending level between 4,3 kHz and 200 KHz during communication (loop current > 18 mA)	Not required
4.2.5 Sending level from 200 kHz to 30 MHz	
4.2.5 Sending level from 200 kHz to 3 MHz	Pass
4.2.5 Sending level from 200 kHz to 3 MHz (loop current > 18 mA)	Not required
4.2.5 Sending level from 3 MHz to 30 MHz	Pass
4.2.5 Sending level from 3 MHz to 30 MHz (loop current > 18 mA)	Not required
4.3 Power feeding limitation	Pass
4.4 Automatically repeated call attempts	Not required
ETSI ES 203 021-3 V2.1.2 (2006-01)	
4.4 General requirements in quiescent state	
4.4.1 DC Resistance	Pass
4.4.1 DC Resistance (single terminal)	Not required
4.4.2 Characteristics of TE for ringing signals	
4.4.2.1 Impedance	Pass
4.4.2.1 Impedance (single terminal)	Not required
4.4.2.2 Transient response	Pass
4.4.2.3 DC current	Pass
4.4.3 Resistance to earth	Not required
4.4.3 Resistance to earth (single terminal)	Not required
4.4.4 Impedance	Pass

4.5 Ringing signal detector sensitivity	Pass
4.6 Transition from quiescent to loop state	
4.6.1 Acceptance of breaks in the loop in a call attempt	Pass
4.6.2 Loop current characteristics	Pass
4.6.2 Loop current characteristics (loop current > 18 mA)	Not required
4.6.3 Ring trip	Pass
4.7 General loop steady state requirements	
4.7.1 DC characteristics	Pass
4.7.1 DC characteristics (loop current > 18 mA)	Not required
4.7.2 Impedance	Pass
4.7.2 Reactive component of the impedance	Pass
4.7.2 Impedance (loop current > 18 mA)	Not required
4.7.2 Reactive component of the impedance (loop current > 18 mA)	Not required
4.7.3 Resistance to earth	Not required
4.8 Call attempt	
4.8.1 Automatic dialling	
4.8.1.1 Dialling without dial tone detection	Not required
4.8.1.2 Dialling with dial tone detection	Not required
4.8.2 DTMF signalling	
4.8.2.1 Frequency combinations. 4.8.2.4 Tone duration. 4.8.2.5 Pause duration	Pass
4.8.2.2 Signalling levels. 4.8.2.3 Unwanted frequency components	Pass
4.8.2.2 Signalling levels. 4.8.2.3 Unwanted frequency components (loop current > 18 mA)	Not required
4.9 Transition from loop to quiescent state	Pass

11 Detailed test results

Test specification:	4.2.1 Mean sending level		
Test purpose:	To check that the mean sending level in the frequency range 200 Hz to 3 800 Hz over a one-minute period is not greater than -9.7 dBV. This requirement does not apply to DTMF signals.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	2/19/2008 21:40:29		
Temperature: 23degreeC	Air Pressure: 101.2kPa	Relative Humidity: 50%	Mains Power Supply: 230V
Remarks: Pink Noise			

Measurement uncertainty

Expanded uncertainty, k=2 (95% confidence):

Signal power level (20Hz - 300kHz)	±0.1dB
Signal power level (300kHz - 30 MHz)	±2.52dB
Peak to peak voltage (frequency 10Hz - 5kHz)	±0.22%

General parameters

Parameter	Value
EUT state	Sending Data
Feed voltage	50 V

Test ranges

Frequency				
Start	Stop	Overall meas. time	Acquisition settings	Termination
200.00 Hz	3.80 kHz	60 s	Acquisition time = 100 ms, Overall meas. time = 60 s	270 Ohm + 750 Ohm ll 0.15 uF VF

Average voltage

Average voltage	Limit	Verdict
Condition 1: Feed polarity: Normal, Series resistance: 400 Ohm		**Pass**
-25.95 dBV	-9.7 dBV	Pass
Condition 2: Feed polarity: Reverse, Series resistance: 2.8 kOhm		**Pass**
-25.79 dBV	-9.7 dBV	Pass

Test specification:	4.2.2 Instantaneous voltage		
Test purpose:	To check that the peak to peak voltage of the TE shall not be greater than 5V.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	2/19/2008 21:43:31		
Temperature: 23degreeC	Air Pressure: 101.2kPa	Relative Humidity: 50%	Mains Power Supply: 230V
Remarks: Pink Noise			

Measurement uncertainty

Expanded uncertainty, k=2 (95% confidence):

Signal power level (20Hz - 300kHz)	±0.1dB
Signal power level (300kHz - 30 MHz)	±2.52dB
Peak to peak voltage (frequency 10Hz - 5kHz)	±0.22%

General parameters

Parameter	Value
EUT state	...
Feed voltage	50 V

Test ranges

Frequency				
Start	Stop	Overall meas. time	Acquisition settings	Termination
200.00 Hz	3.80 kHz	60 s	Acquisition time = 100 ms, Overall meas. time = 60 s	270 Ohm + 750 Ohm ll 0.15 uF VF

Max peak to peak voltage

Peak to Peak Voltage	Limit	Verdict
Condition 1: Feed polarity: Normal, Series resistance: 400 Ohm		**Pass**
0.35 V	5 V	Pass
Condition 2: Feed polarity: Reverse, Series resistance: 2.8 kOhm		**Pass**
0.37 V	5 V	Pass

Test specification:	4.2.2 Instantaneous voltage		
Test purpose:	To check that the peak to peak voltage of the TE shall not be greater than 5V.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	2/19/2008 21:54:39		
Temperature: 23degreeC	Air Pressure: 101.2kPa	Relative Humidity: 50%	Mains Power Supply: 230V
Remarks: DTMF			

Measurement uncertainty

Expanded uncertainty, k=2 (95% confidence):

Signal power level (20Hz - 300kHz)	±0.1dB
Signal power level (300kHz - 30 MHz)	±2.52dB
Peak to peak voltage (frequency 10Hz - 5kHz)	±0.22%

General parameters

Parameter	Value
EUT state	...
Feed voltage	50 V

Test ranges

Frequency				
Start	Stop	Overall meas. time	Acquisition settings	Termination
200.00 Hz	3.80 kHz	60 s	Acquisition time = 100 ms, Overall meas. time = 60 s	270 Ohm + 750 Ohm ll 0.15 uF VF

Max peak to peak voltage

Peak to Peak Voltage	Limit	Verdict
Condition 1: Feed polarity: Normal, Series resistance: 400 Ohm		**Pass**
1.87 V	5 V	Pass
Condition 2: Feed polarity: Reverse, Series resistance: 2.8 kOhm		**Pass**
1.86 V	5 V	Pass

Test specification:	4.2.3 Sending level in a 10 Hz bandwidth		
Test purpose:	To check that sending level within every 10 Hz bandwidth in the frequency range 30 Hz to 4300 Hz. This requirement does not apply to DTMF signals and Voice TE.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	2/19/2008 21:45:35		
Temperature: 23degreeC	Air Pressure: 101.2kPa	Relative Humidity: 50%	Mains Power Supply: 230V
Remarks: Pink Noise			

Measurement uncertainty

Expanded uncertainty, k=2 (95% confidence):

Signal power level (20Hz - 300kHz)	±0.1dB
Signal power level (300kHz - 30 MHz)	±2.52dB
Peak to peak voltage (frequency 10Hz - 5kHz)	±0.22%

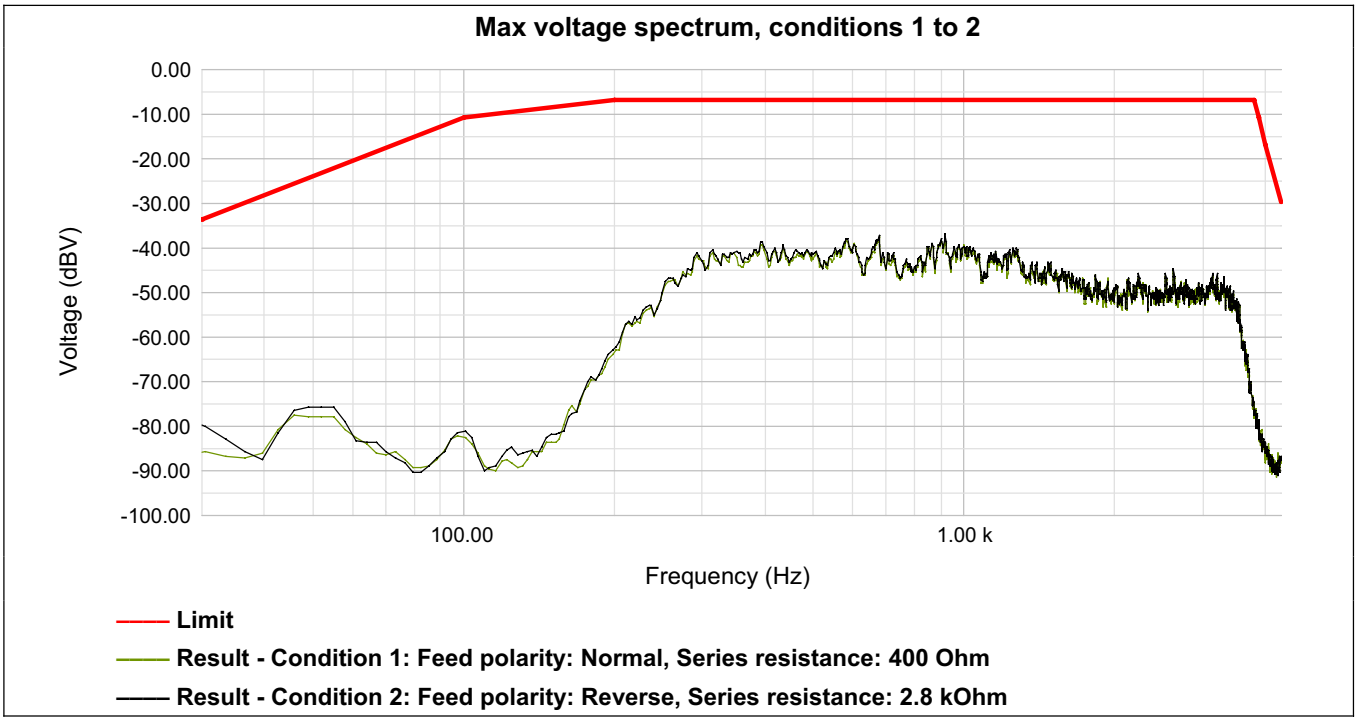
General parameters

Parameter	Value
Feed voltage	50 V

Test ranges

Frequency					
Start	Stop	Bandwidth	Overall meas. time	Acquisition settings	Termination
30.00 Hz	4.30 kHz	10.00 Hz	30 s	Resolution bandwidth = 10.00 Hz, Averaging interval = 100.00 ms, Overall meas. time = 30 s	270 Ohm + 750 Ohm ll 0.15 uF VF

Test specification:	4.2.3 Sending level in a 10 Hz bandwidth		
Test purpose:	To check that sending level within every 10 Hz bandwidth in the frequency range 30 Hz to 4300 Hz. This requirement does not apply to DTMF signals and Voice TE.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	2/19/2008 21:45:35		
Temperature: 23degreeC	Air Pressure: 101.2kPa	Relative Humidity: 50%	Mains Power Supply: 230V
Remarks: Pink Noise			



Test specification:	4.2.4.1 Sending level between 4,3 kHz and 200 KHz during DTMF dialling		
Test purpose:	To check that the sending level in frequency range 4.3 kHz to 200 kHz during DTMF signaling is not greater than allowed.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	2/20/2008 11:50:43		
Temperature: 23degreeC	Air Pressure: 101.2kPa	Relative Humidity: 50%	Mains Power Supply: 230V
Remarks: DTMF			

Measurement uncertainty

Expanded uncertainty, k=2 (95% confidence):

Signal power level (20Hz - 300kHz)	±0.1dB
Signal power level (300kHz - 30 MHz)	±2.52dB
Peak to peak voltage (frequency 10Hz - 5kHz)	±0.22%

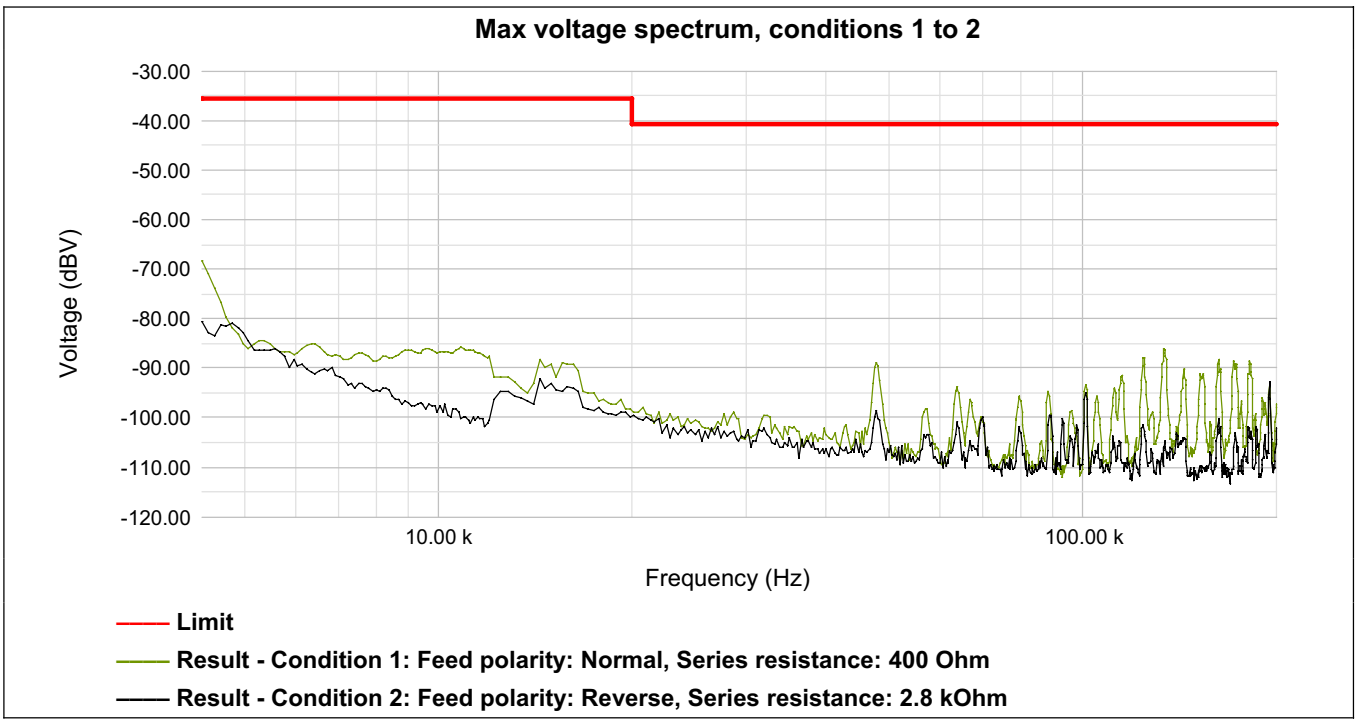
General parameters

Parameter	Value
Feed voltage	50 V

Test ranges

Frequency					
Start	Stop	Bandwidth	Overall meas. time	Acquisition settings	Termination
4.30 kHz	12.00 kHz	300.00 Hz	5 s	Resolution bandwidth = 300.00 Hz, Averaging interval = 100.00 ms, Overall meas. time = 5 s	270 Ohm + 750 Ohm ll 0.15 uF VF
12.00 kHz	200.00 kHz	1.00 kHz	5 s	Resolution bandwidth = 1.00 kHz, Averaging interval = 100.00 ms, Overall meas. time = 5 s	270 Ohm + 750 Ohm ll 0.15 uF VF

Test specification:	4.2.4.1 Sending level between 4,3 kHz and 200 KHz during DTMF dialling		
Test purpose:	To check that the sending level in frequency range 4.3 kHz to 200 kHz during DTMF signaling is not greater than allowed.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	2/20/2008 11:50:43		
Temperature: 23degreeC	Air Pressure: 101.2kPa	Relative Humidity: 50%	Mains Power Supply: 230V
Remarks: DTMF			



Test specification:	4.2.4.2 Sending level between 4,3 kHz and 200 KHz during communication		
Test purpose:	To check that the sending level in frequency range 4.3 kHz to 200 kHz during communication is not greater than allowed.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	2/19/2008 21:46:32		
Temperature: 23degreeC	Air Pressure: 101.2kPa	Relative Humidity: 50%	Mains Power Supply: 230V
Remarks: Pink Noise			

Measurement uncertainty

Expanded uncertainty, k=2 (95% confidence):

Signal power level (20Hz - 300kHz)	±0.1dB
Signal power level (300kHz - 30 MHz)	±2.52dB
Peak to peak voltage (frequency 10Hz - 5kHz)	±0.22%

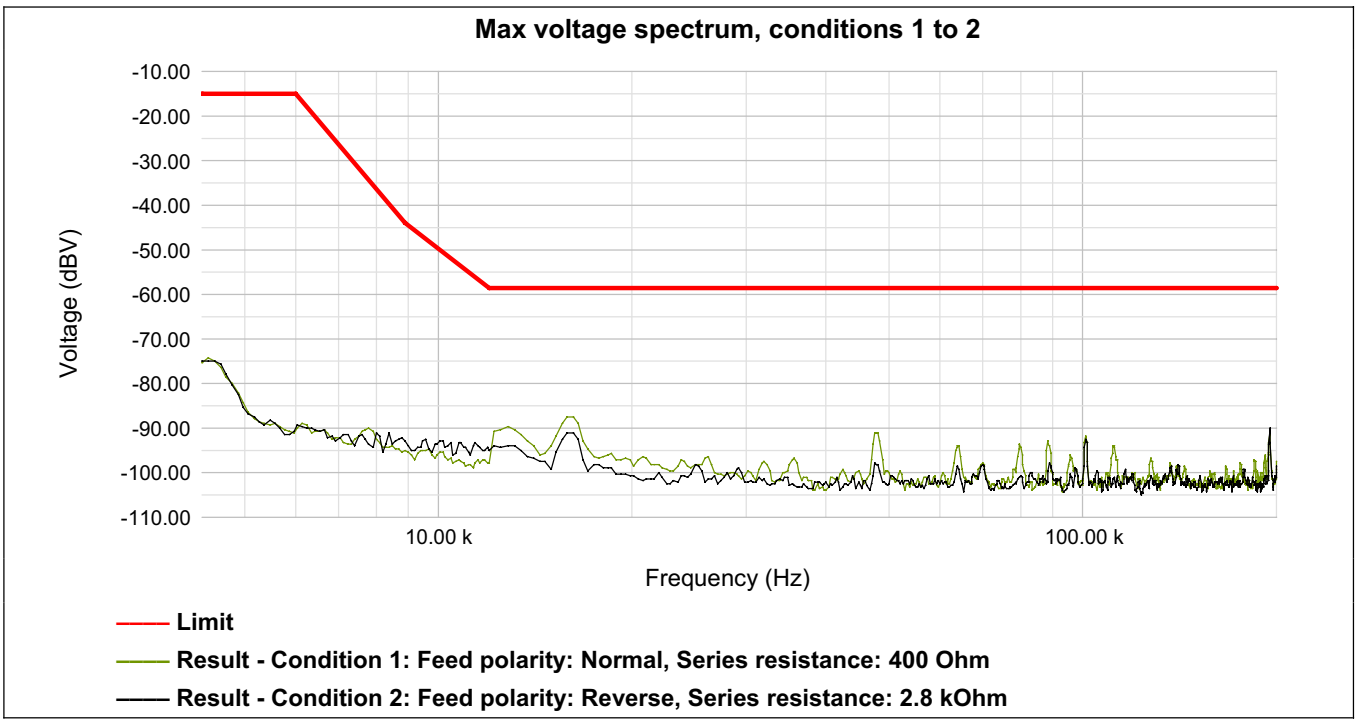
General parameters

Parameter	Value
Feed voltage	50 V

Test ranges

Frequency					
Start	Stop	Bandwidth	Overall meas. time	Acquisition settings	Termination
4.30 kHz	12.00 kHz	300.00 Hz	5 s	Resolution bandwidth = 300.00 Hz, Averaging interval = 100.00 ms, Overall meas. time = 5 s	270 Ohm + 750 Ohm ll 0.15 uF VF
12.00 kHz	200.00 kHz	1.00 kHz	5 s	Resolution bandwidth = 1.00 kHz, Averaging interval = 100.00 ms, Overall meas. time = 5 s	270 Ohm + 750 Ohm ll 0.15 uF VF

Test specification:	4.2.4.2 Sending level between 4,3 kHz and 200 KHz during communication		
Test purpose:	To check that the sending level in frequency range 4.3 kHz to 200 kHz during communication is not greater than allowed.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	2/19/2008 21:46:32		
Temperature: 23degreeC	Air Pressure: 101.2kPa	Relative Humidity: 50%	Mains Power Supply: 230V
Remarks: Pink Noise			



Test specification:	4.2.5 Sending level from 200 kHz to 3 MHz		
Test purpose:	To check that the total voltage level in a bandwidth, defined in table 1, wholly contained within the frequency range 200 kHz to 3 MHz, arising from normal operation of the TE and when terminated with ZRHF, not exceed the limits shown in table 1 and figure 1.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	2/19/2008 21:52:56		
Temperature: 23degreeC	Air Pressure: 101.2kPa	Relative Humidity: 50%	Mains Power Supply: 230V
Remarks: Pink Noise			

Measurement uncertainty

Expanded uncertainty, k=2 (95% confidence):

Signal power level (20Hz - 300kHz)	±0.1dB
Signal power level (300kHz - 30 MHz)	±2.52dB

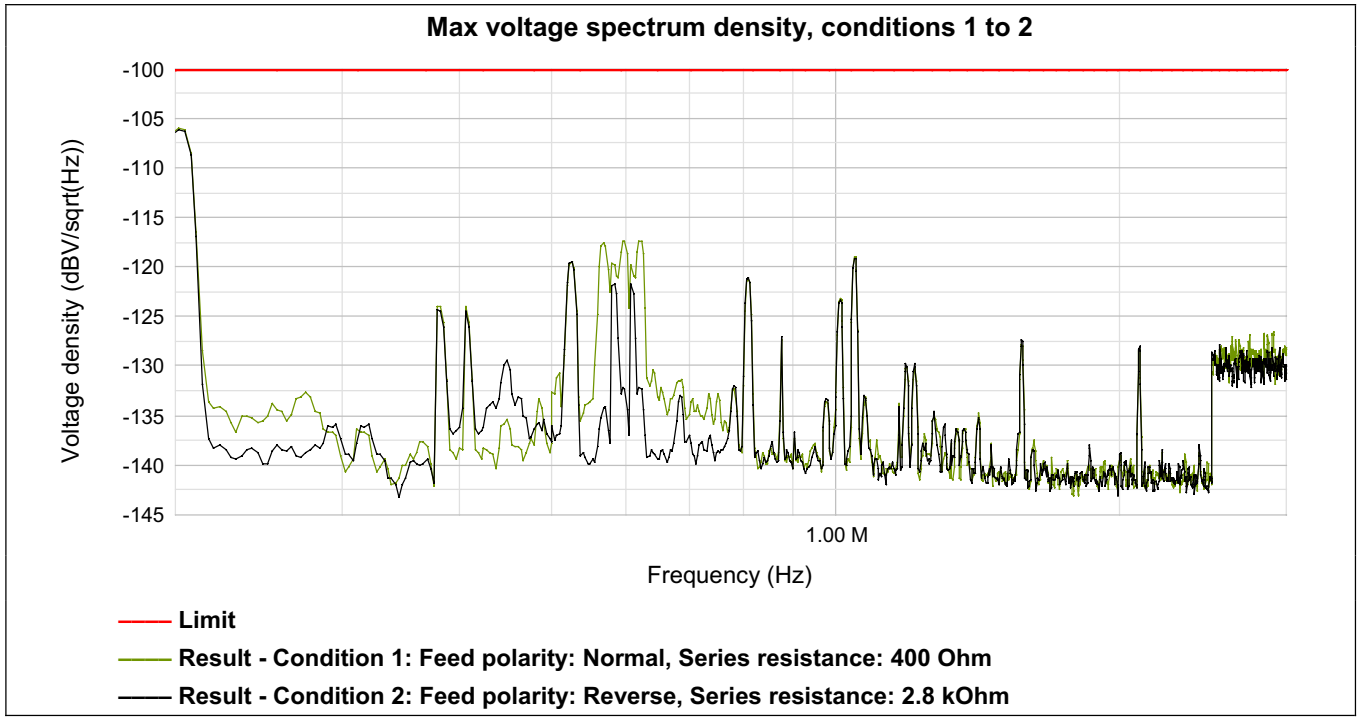
General parameters

Parameter	Value
Feed voltage	50 V

Test ranges

Frequency					
Start	Stop	Bandwidth	Overall meas. time	Acquisition settings	Termination
200.00 kHz	500.00 kHz	10.00 kHz	10 s	Resolution bandwidth = 10.00 kHz, Averaging interval = 100.00 ms, Overall meas. time = 10 s	Zref.HF-ETSI
500.00 kHz	2.50 MHz	10.00 kHz	10 s	Resolution bandwidth = 10.00 kHz, Averaging interval = 100.00 ms, Overall meas. time = 10 s	Zref.HF-ETSI
2.50 MHz	3.00 MHz	10.00 kHz	10 s	Resolution bandwidth = 10.00 kHz, Averaging interval = 100.00 ms, Overall meas. time = 10 s	Zref.HF-ETSI

Test specification:	4.2.5 Sending level from 200 kHz to 3 MHz		
Test purpose:	To check that the total voltage level in a bandwidth, defined in table 1, wholly contained within the frequency range 200 kHz to 3 MHz, arising from normal operation of the TE and when terminated with ZRHF, not exceed the limits shown in table 1 and figure 1.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	2/19/2008 21:52:56		
Temperature: 23degreeC	Air Pressure: 101.2kPa	Relative Humidity: 50%	Mains Power Supply: 230V
Remarks: Pink Noise			



Test specification:	4.2.5 Sending level from 3 MHz to 30 MHz		
Test purpose:	To check that the total voltage level in a bandwidth, defined in table 1, wholly contained within the frequency range 3 MHz to 30 MHz, arising from normal operation of the TE and when terminated with ZRHF, not exceed the limits shown in table 1 and figure 1.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	2/19/2008 21:49:32		
Temperature: 23degreeC	Air Pressure: 101.2kPa	Relative Humidity: 50%	Mains Power Supply: 230V
Remarks: Pink Noise			

Measurement uncertainty

Expanded uncertainty, k=2 (95% confidence):

Signal power level (20Hz - 300kHz)	±0.1dB
Signal power level (300kHz - 30 MHz)	±2.52dB

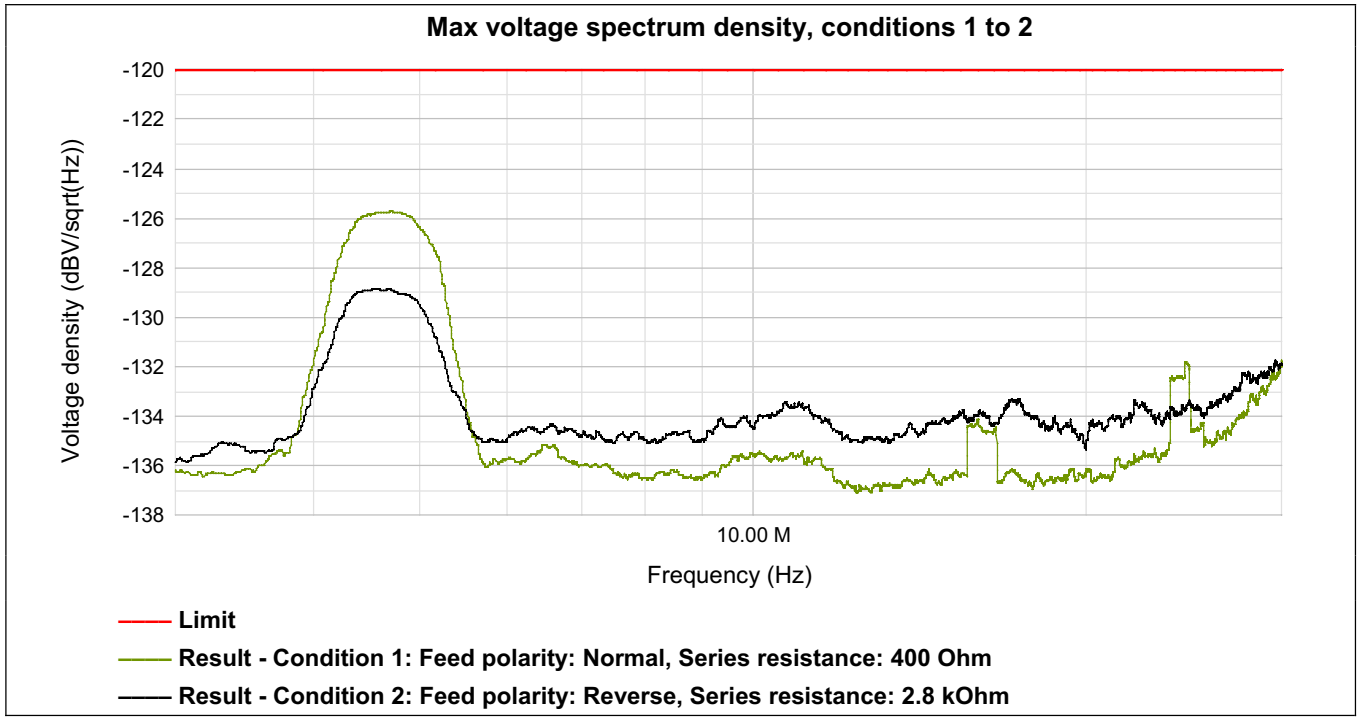
General parameters

Parameter	Value
Feed voltage	50 V

Test ranges

Frequency					
Start	Stop	Bandwidth	Overall meas. time	Acquisition settings	Termination
3.00 MHz	30.10 MHz	10.00 kHz	10 s	Resolution bandwidth = 10.00 kHz, Averaging interval = 100.00 ms, Overall meas. time = 10 s	Zref.HF-ETSI

Test specification:	4.2.5 Sending level from 3 MHz to 30 MHz		
Test purpose:	To check that the total voltage level in a bandwidth, defined in table 1, wholly contained within the frequency range 3 MHz to 30 MHz, arising from normal operation of the TE and when terminated with ZRHF, not exceed the limits shown in table 1 and figure 1.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	2/19/2008 21:49:32		
Temperature: 23degreeC	Air Pressure: 101.2kPa	Relative Humidity: 50%	Mains Power Supply: 230V
Remarks: Pink Noise			



Test specification:	4.3 Power feeding limitation		
Test purpose:	To verify that the TE does not feed the TN interface.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	2/19/2008 15:42:02		
Temperature: 23degreeC	Air Pressure: 101.2kPa	Relative Humidity: 50%	Mains Power Supply: 230V
Remarks: N/A			

Measurement uncertainty

Expanded uncertainty, k=2 (95% confidence):

Current	±1.23%
Voltage	±1.1%

General parameters

Parameter	Value
Delay before meas.	5s
Termination	300 Ohm

Max voltage, Max current

Max Voltage	Max Current	Limit	Verdict
			Pass
0.00 V	390.06 nA	1 mA	Pass

Test specification:	4.4.1 DC Resistance		
Test purpose:	To check whether the TE presents a resistance of at least 4 MOhm at 25, 50 and 100 VDC in quiescent state.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	2/19/2008 15:47:47		
Temperature: 23degreeC	Air Pressure: 101.2kPa	Relative Humidity: 50%	Mains Power Supply: 230V
Remarks: N/A			

Measurement uncertainty

Expanded uncertainty, k=2 (95% confidence):

Tip-Ring, Test voltage 1-200V

Resistance in range 30 kohm - 10 Mohm ±0.8 %

Resistance in range 10- 30 Mohm ±2.5%

Tip, Ring to Ground, Test voltage 5-500V

Resistance in range 30 kohm - 1 Mohm ±1%

Resistance in range 1 Mohm - 10 Mohm ±2%

Resistance in range 10- 30 Mohm ±2.5%

Resistance vs voltage

Voltage	Resistance	Limit	Verdict
Condition 1: Test polarity: Normal			**Pass**
25 V	11.25 MOhm	4 MOhm	Pass
50 V	10.84 MOhm	4 MOhm	Pass
100 V	10.21 MOhm	4 MOhm	Pass
Condition 2: Test polarity: Reverse			**Pass**
25 V	11.23 MOhm	4 MOhm	Pass
50 V	10.83 MOhm	4 MOhm	Pass
100 V	10.2 MOhm	4 MOhm	Pass

Test specification:	4.4.2.1 Impedance		
Test purpose:	To determine whether the TE presents impedance in the quiescent state during ringing equal to or greater than 16 KOhm.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	2/19/2008 15:49:14		
Temperature: 23degreeC	Air Pressure: 101.2kPa	Relative Humidity: 50%	Mains Power Supply: 230V
Remarks: N/A			

Measurement uncertainty

Expanded uncertainty, k=2 (95% confidence):

DC current	±2.6%
AC current	±0.72%
Phase	±0.43%
Impedance	±1.69%

General parameters

Parameter	Value
Series resistance	2.05 kOhm
Ring level	30.00 Vrms

AC Current, Impedance

Current	Impedance	Limit	Verdict
Condition 1: Feed voltage: 0 V, Ring frequency: 25.00 Hz			**Pass**
< 50.00 uA	> 600.57 kOhm	16 kOhm	Pass
Condition 2: Feed voltage: 50 V, Ring frequency: 25.00 Hz			**Pass**
< 50.00 uA	> 600.58 kOhm	16 kOhm	Pass
Condition 3: Feed voltage: 0 V, Ring frequency: 50.00 Hz			**Pass**
< 50.00 uA	> 600.63 kOhm	16 kOhm	Pass
Condition 4: Feed voltage: 50 V, Ring frequency: 50.00 Hz			**Pass**
< 50.00 uA	> 600.40 kOhm	16 kOhm	Pass

Test specification:	4.4.2.2 Transient response		
Test purpose:	To check the transient current characteristics of the TE in quiescent state. The current shall be equal to or less than 25 mA, 1 ms after commencement of the excitation, and equal to or less than 10 mA 6 ms after commencement.		
Test mode:	Compliance	**Verdict:**	PASS
Date & Time:	2/19/2008 15:51:44		
Temperature: 23degreeC	**Air Pressure:** 101.2kPa	**Relative Humidity:** 50%	**Mains Power Supply:** 230V
Remarks: N/A			

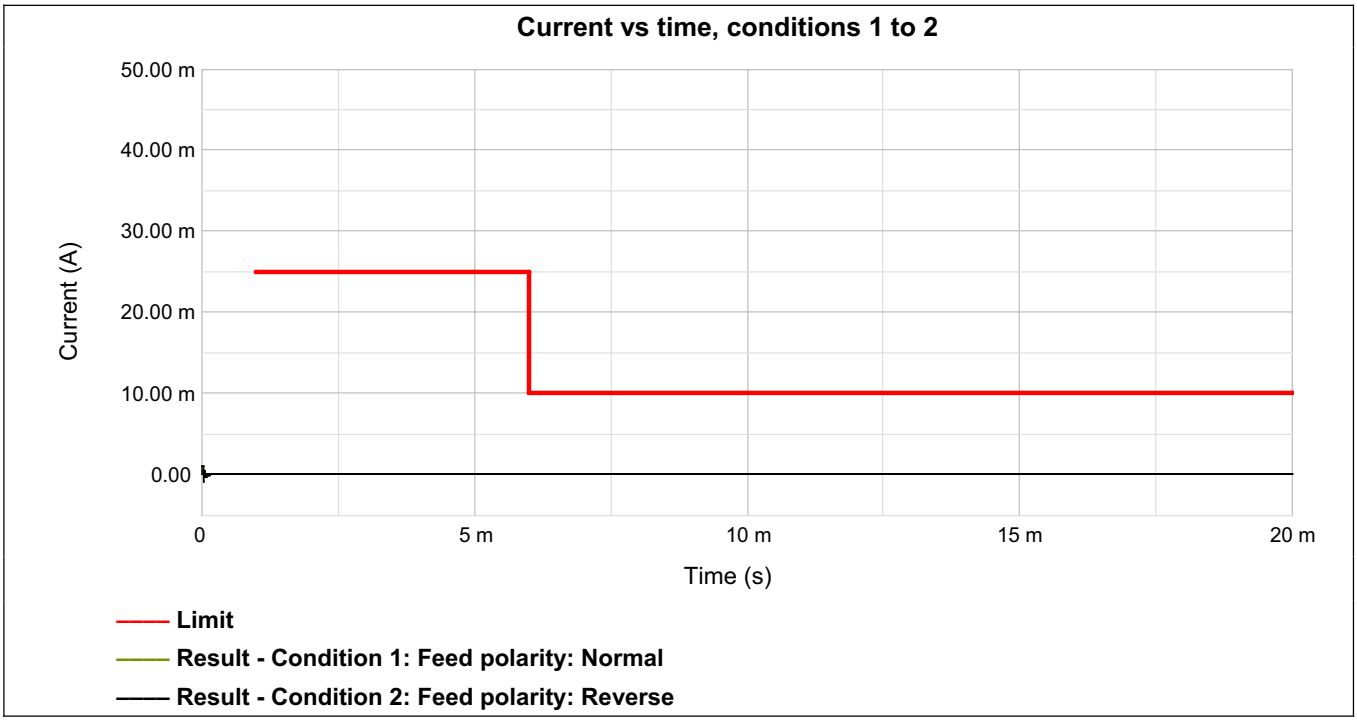
Measurement uncertainty

Expanded uncertainty, k=2 (95% confidence):

Current	±1.4%
Timing	±0.1ms

General parameters

Parameter	Value
Series resistance	200 Ohm
Feed voltage	60 V



Test specification:	4.4.2.3 DC current		
Test purpose:	To determine whether the DC component of the ringing current exceeds 0.6 mA		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	2/19/2008 15:53:05		
Temperature: 23degreeC	Air Pressure: 101.2kPa	Relative Humidity: 50%	Mains Power Supply: 230V
Remarks: N/A			

Measurement uncertainty

Expanded uncertainty, k=2 (95% confidence):

DC current	±2.6%
AC current	±0.72%
Phase	±0.43%
Impedance	±1.69%

General parameters

Parameter	Value
Series resistance	850 Ohm
Meas. configuration	Tip - Ring
Ringing signal level	90.00 Vrms

DC Current

Current	Limit	Verdict
Condition 1: Feed polarity: Normal, Feed voltage: 60 V, Ringing frequency: 25.00 Hz		**Pass**
< 50.00 uA	600 uA	Pass
Condition 2: Feed polarity: Normal, Feed voltage: 60 V, Ringing frequency: 50.00 Hz		**Pass**
< 50.00 uA	600 uA	Pass
Condition 3: Feed polarity: Reverse, Feed voltage: 60 V, Ringing frequency: 25.00 Hz		**Pass**
< 50.00 uA	600 uA	Pass
Condition 4: Feed polarity: Reverse, Feed voltage: 60 V, Ringing frequency: 50.00 Hz		**Pass**
< 50.00 uA	600 uA	Pass
Condition 5: Feed polarity: Normal, Feed voltage: 0 V, Ringing frequency: 25.00 Hz		**Pass**
< 50.00 uA	600 uA	Pass
Condition 6: Feed polarity: Normal, Feed voltage: 0 V, Ringing frequency: 50.00 Hz		**Pass**
< 50.00 uA	600 uA	Pass

Test specification:	4.4.4 Impedance		
Test purpose:	To check whether the TE presents an impedance at least 40 KOhm between 200 Hz and 4300 Hz and at least 5 KOhm at 12 kHz and 16 kHz when tested at 1 Vrms in the quiescent state.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	2/19/2008 15:53:26		
Temperature: 23degreeC	Air Pressure: 101.2kPa	Relative Humidity: 50%	Mains Power Supply: 230V
Remarks: N/A			

Measurement uncertainty

Expanded uncertainty, k=2 (95% confidence):

Impedance ±3.6%

General parameters

Parameter	Value
Feed voltage	9 V
Stimulus level	1 V

Test ranges

Stimulus frequency		
Start	Stop	Step
200.00 Hz	200.00 Hz	0.00 Hz
4.30 kHz	4.30 kHz	0.00 Hz
12.00 kHz	12.00 kHz	0.00 Hz
16.00 kHz	16.00 kHz	0.00 Hz

Impedance vs frequency

Frequency	Impedance	Limit	Verdict
			Pass
200.00 Hz	> 150.00 kOhm	40 kOhm	Pass
4.31 kHz	44.26 kOhm	5 kOhm	Pass
12.02 kHz	15.82 kOhm	5 kOhm	Pass
16.00 kHz	11.73 kOhm	5 kOhm	Pass

Test specification:	4.5 Ringing signal detector sensitivity		
Test purpose:	To determine the ability of the TE to respond as stated by the supplier to ringing signals		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	2/19/2008 15:54:38		
Temperature: 23degreeC	Air Pressure: 101.2kPa	Relative Humidity: 50%	Mains Power Supply: 230V
Remarks: N/A			

Measurement uncertainty

Expanded uncertainty, k=2 (95% confidence):

Ringing voltage	±1.6%
Ringing frequency	±0.01%
Timing	±37ms

General parameters

Parameter	Value
Series resistance	850 Ohm
Adjust ring level	Yes

Response time, Sensitivity

Time	Sensitivity	Limit	Verdict
Condition 1: Feed voltage: 50 V, Ring signal: Ring signal 25Hz/30V 1.0/5.0			**Pass**
0.75 s	Sensitive	Sensitive	Pass
Condition 2: Feed voltage: 50 V, Ring signal: Ring signal 50Hz/30V 1.0/5.0			**Pass**
0.84 s	Sensitive	Sensitive	Pass
Condition 3: Feed voltage: 0 V, Ring signal: Ring signal 25Hz/30V 1.0/5.0			**Pass**
0.80 s	Sensitive	Sensitive	Pass
Condition 4: Feed voltage: 0 V, Ring signal: Ring signal 50Hz/30V 1.0/5.0			**Pass**
6.96 s	Sensitive	Sensitive	Pass

Test specification:	4.6.1 Acceptance of breaks in the loop in a call attempt		
Test purpose:	To check the ability of the TE to accept breaks in the loop current during establishment of loop state		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	2/19/2008 21:59:06		
Temperature: 23degreeC	Air Pressure: 101.2kPa	Relative Humidity: 50%	Mains Power Supply: 230V
Remarks: N/A			

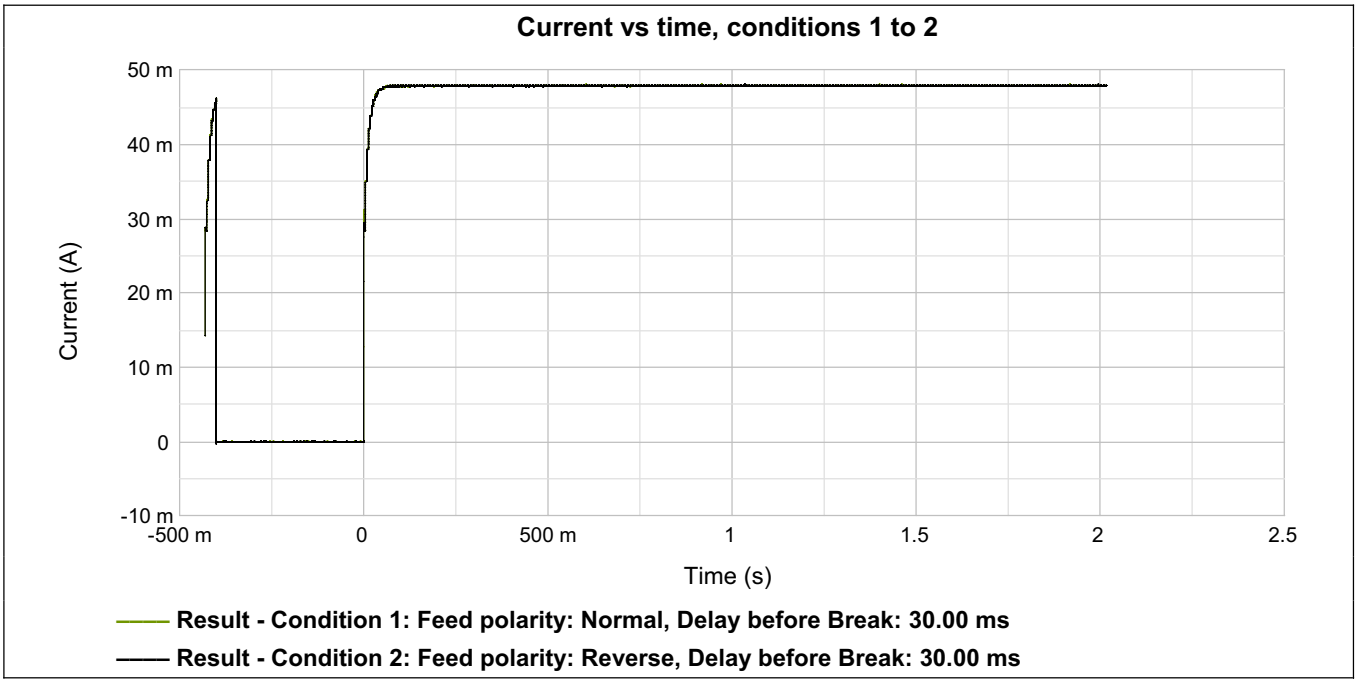
Measurement uncertainty

Expanded uncertainty, k=2 (95% confidence):

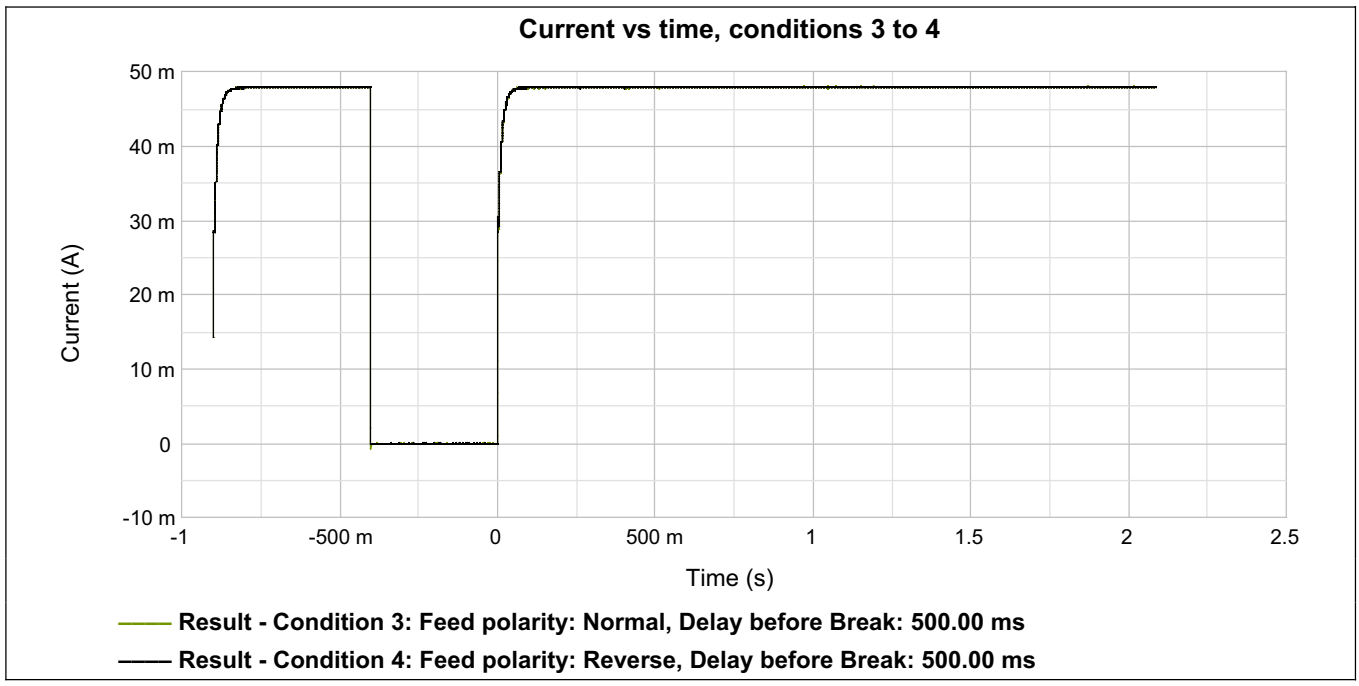
Measured Current	±1.2%
Measured Timing	±2%

General parameters

Parameter	Value
Series resistance	850 Ohm
Feed voltage	50 V
Off-hook current	0.0128A
Break Loop Duration	400.00 ms



Test specification:	4.6.1 Acceptance of breaks in the loop in a call attempt		
Test purpose:	To check the ability of the TE to accept breaks in the loop current during establishment of loop state		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	2/19/2008 21:59:06		
Temperature: 23degreeC	Air Pressure: 101.2kPa	Relative Humidity: 50%	Mains Power Supply: 230V
Remarks: N/A			



Rise time, Drop time

Rise time	Limit	Drop time	Limit	Verdict
Condition 1: Feed polarity: Normal, Delay before Break: 30.00 ms				**Pass**
200 us	20 ms	<100 us	7 ms	Pass
Condition 2: Feed polarity: Reverse, Delay before Break: 30.00 ms				**Pass**
200 us	20 ms	<100 us	7 ms	Pass
Condition 3: Feed polarity: Normal, Delay before Break: 500.00 ms				**Pass**
400 us	20 ms	<100 us	7 ms	Pass
Condition 4: Feed polarity: Reverse, Delay before Break: 500.00 ms				**Pass**
<100 us	20 ms	<100 us	7 ms	Pass

Test specification:	4.6.2 Loop current characteristics		
Test purpose:	To check the current/time characteristics of the TE during the transition from quiescent to loop state in various loop feeding conditions.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	2/19/2008 22:10:06		
Temperature: 23degreeC	Air Pressure: 101.2kPa	Relative Humidity: 50%	Mains Power Supply: 230V
Remarks: N/A			

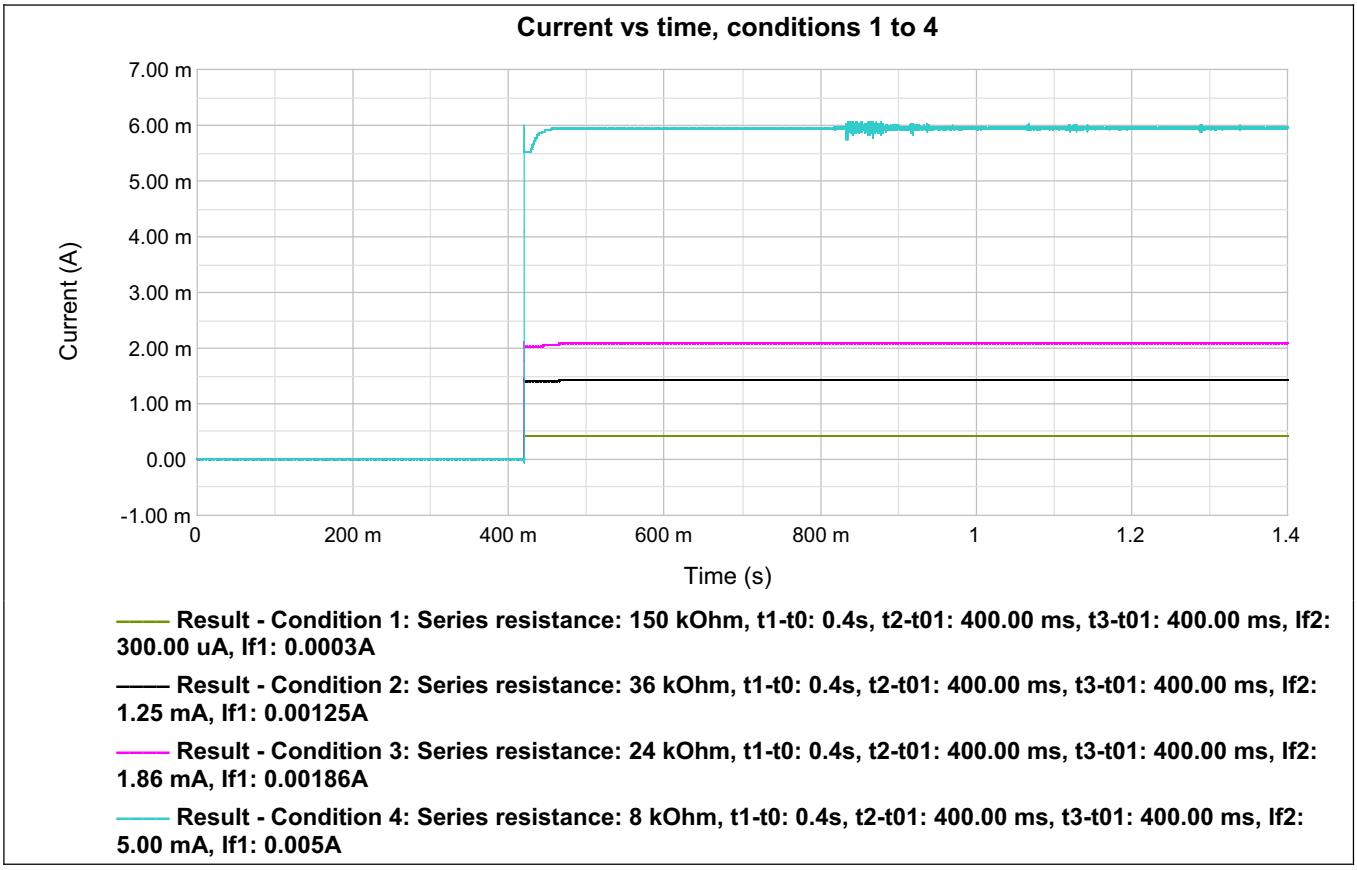
Measurement uncertainty

Expanded uncertainty, k=2 (95% confidence):

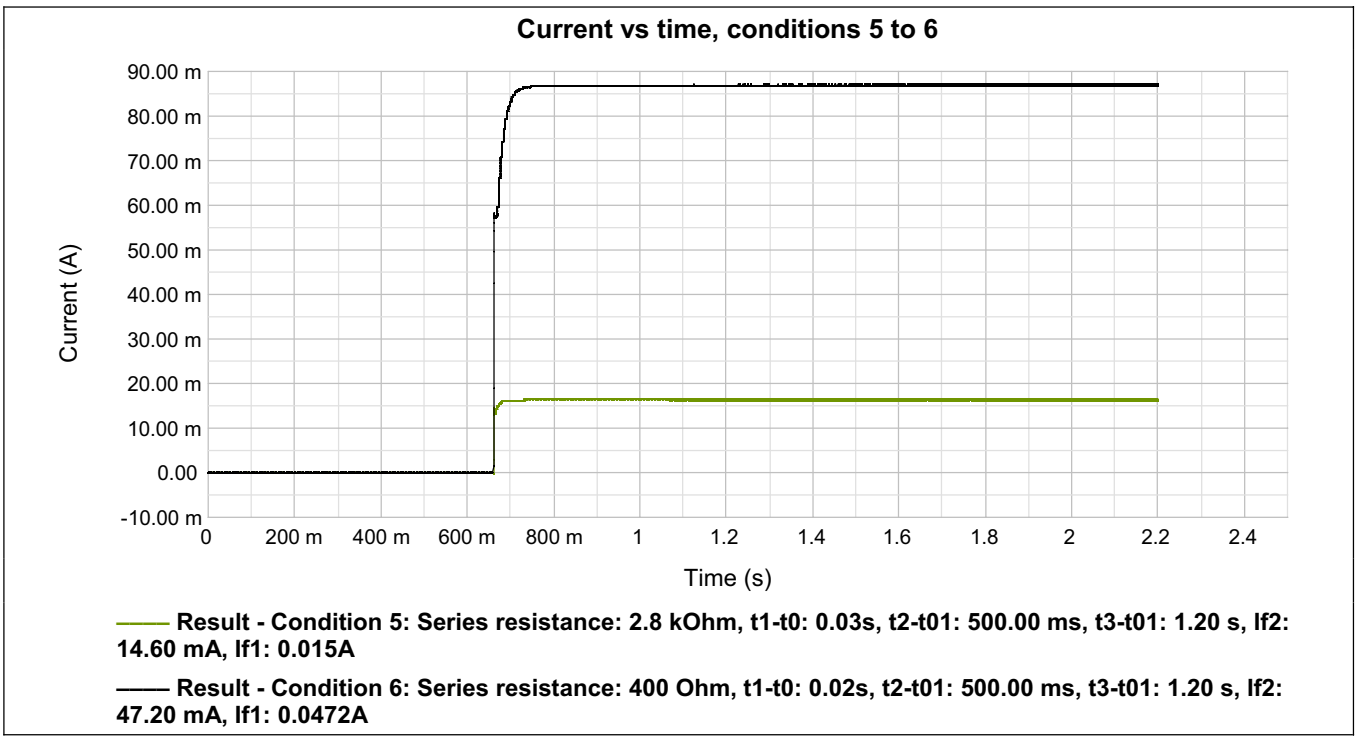
DC current	±1.41%
Timing	±0.2ms

General parameters

Parameter	Value
Feed polarity	Normal
Feed voltage	50 V
If0	0.0001A



Test specification:	4.6.2 Loop current characteristics		
Test purpose:	To check the current/time characteristics of the TE during the transition from quiescent to loop state in various loop feeding conditions.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	2/19/2008 22:10:06		
Temperature: 23degreeC	Air Pressure: 101.2kPa	Relative Humidity: 50%	Mains Power Supply: 230V
Remarks: N/A			



Line seizure rise time, Total drops time

Series resistance	Rise time	Limit	Drops time	Limit	Verdict
Condition 1: Series resistance: 150 kOhm, t1-t0: 0.4s, t2-t01: 400.00 ms, t3-t01: 400.00 ms, If2: 300.00 uA, If1: 0.0003A					**Pass**
150 kOhm	< 20 us	400 ms	< 20 us	7 ms	Pass
Condition 2: Series resistance: 36 kOhm, t1-t0: 0.4s, t2-t01: 400.00 ms, t3-t01: 400.00 ms, If2: 1.25 mA, If1: 0.00125A					**Pass**
36 kOhm	20 us	400 ms	< 20 us	7 ms	Pass
Condition 3: Series resistance: 24 kOhm, t1-t0: 0.4s, t2-t01: 400.00 ms, t3-t01: 400.00 ms, If2: 1.86 mA, If1: 0.00186A					**Pass**
24 kOhm	40 us	400 ms	< 20 us	7 ms	Pass
Condition 4: Series resistance: 8 kOhm, t1-t0: 0.4s, t2-t01: 400.00 ms, t3-t01: 400.00 ms, If2: 5.00 mA, If1: 0.005A					**Pass**
8 kOhm	40 us	400 ms	< 20 us	7 ms	Pass
Condition 5: Series resistance: 2.8 kOhm, t1-t0: 0.03s, t2-t01: 500.00 ms, t3-t01: 1.20 s, If2: 14.60 mA, If1: 0.015A					**Pass**
2.8 kOhm	10.58 ms	30 ms	< 20 us	7 ms	Pass

Test specification:	4.6.2 Loop current characteristics		
Test purpose:	To check the current/time characteristics of the TE during the transition from quiescent to loop state in various loop feeding conditions.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	2/19/2008 22:10:06		
Temperature: 23degreeC	Air Pressure: 101.2kPa	Relative Humidity: 50%	Mains Power Supply: 230V
Remarks: N/A			

Series resistance	Rise time	Limit	Drops time	Limit	Verdict
Condition 6: Series resistance: 400 Ohm, t1-t0: 0.02s, t2-t01: 500.00 ms, t3-t01: 1.20 s, If2: 47.20 mA, If1: 0.0472A					**Pass**
400 Ohm	80 us	20 ms	< 20 us	7 ms	Pass

Test specification:	4.6.3 Ring trip		
Test purpose:	To check that the AC current of the TE during the transition from quiescent to loop state comply with clause 4.6.3.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	2/20/2008 11:46:29		
Temperature: 23degreeC	Air Pressure: 101.2kPa	Relative Humidity: 50%	Mains Power Supply: 230V
Remarks: N/A			

Measurement uncertainty

Expanded uncertainty, k=2 (95% confidence):

DC current	±2.6%
AC current	±0.72%
Phase	±0.43%
Impedance	±1.69%

General parameters

Parameter	Value
Series resistance	800 Ohm
Feed polarity	Normal
DC Current limit	200.00 mA
Feed voltage	50 V
Meas. configuration	Tip - Ring
Ring level	50.00 Vrms
Delay before DC removing	60.00 s

AC Current

Current	Limit	Verdict
Condition 1: Ring frequency: 50.00 Hz		**Pass**
43.57 mA	36 mA	Pass
Condition 2: Ring frequency: 25.00 Hz		**Pass**
43.82 mA	36 mA	Pass

Test specification:	4.7.1 DC characteristics		
Test purpose:	To verify the steady-state DC loop characteristics		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	2/19/2008 22:37:13		
Temperature: 23degreeC	Air Pressure: 101.2kPa	Relative Humidity: 50%	Mains Power Supply: 230V
Remarks: N/A			

Measurement uncertainty

Expanded uncertainty, k=2 (95% confidence):

Current	±1.23%
Voltage	±1.1%

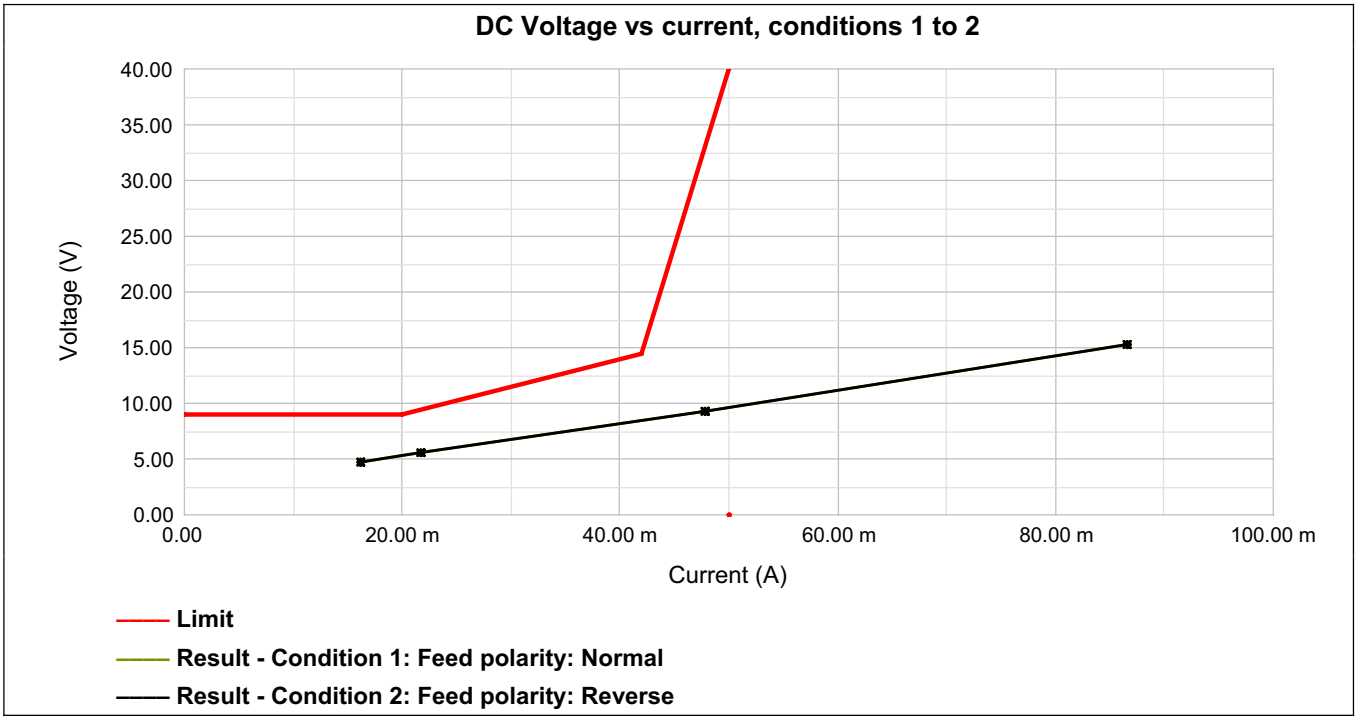
General parameters

Parameter	Value
Feed voltage	50 V
Current stability	0.50%
Setting time	3 s
Delay after line seizure	1.20 s

Test ranges

Feed Resistance		
Start	Stop	Step
400 Ohm	400 Ohm	0 Ohm
850 Ohm	850 Ohm	0 Ohm
2.05 kOhm	2.05 kOhm	0 Ohm
2.8 kOhm	2.8 kOhm	0 Ohm

Test specification:	4.7.1 DC characteristics		
Test purpose:	To verify the steady-state DC loop characteristics		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	2/19/2008 22:37:13		
Temperature: 23degreeC	Air Pressure: 101.2kPa	Relative Humidity: 50%	Mains Power Supply: 230V
Remarks: N/A			



DC Voltage vs current

Current	Voltage	Limit	Verdict
Condition 1: Feed polarity: Normal			**Pass**
16.15 mA	4.72 V	9 V	Pass
21.66 mA	5.51 V	9.42 V	Pass
47.82 mA	9.22 V	33.04 V	Pass
86.58 mA	15.30 V	-	Pass
Condition 2: Feed polarity: Reverse			**Pass**
16.15 mA	4.73 V	9 V	Pass
21.66 mA	5.52 V	9.41 V	Pass
47.80 mA	9.23 V	32.99 V	Pass
86.56 mA	15.31 V	-	Pass

Test specification:	4.7.2 Impedance		
Test purpose:	To verify that the return loss of the input impedance of the TE in relation to the reference impedance is not less than 6 dB at 200 - 300 Hz and not less than 8 dB at 300 - 4000 Hz.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	2/20/2008 11:57:57		
Temperature: 23degreeC	Air Pressure: 101.2kPa	Relative Humidity: 50%	Mains Power Supply: 230V
Remarks: N/A			

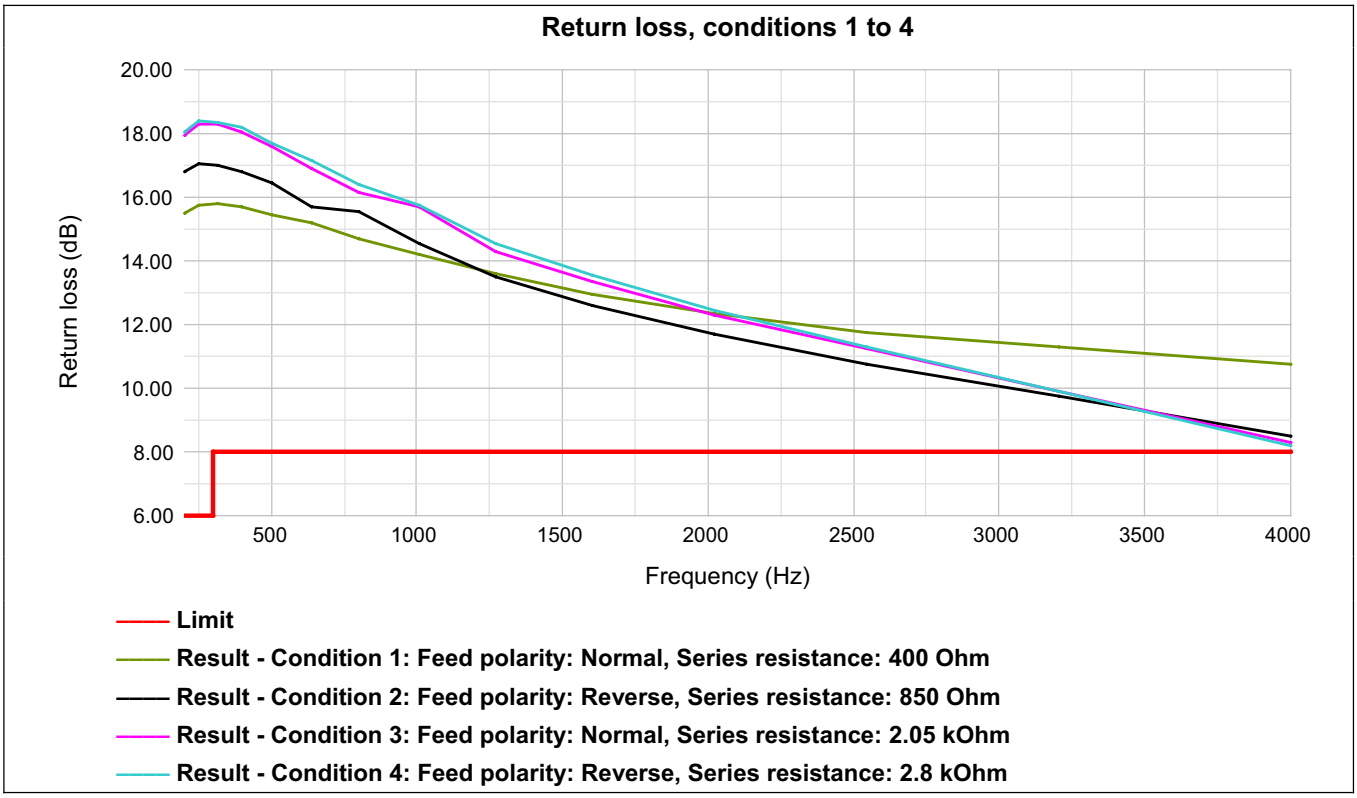
Measurement uncertainty

Expanded uncertainty, k=2 (95% confidence):

Impedance (50 to 2000 ohm)	±0.42%
Phase (50 to 2000 ohm)	±0.5%
Return Loss (0 to 30 dB RL)	±0.32dB
Return Loss (30 to 40 dB RL)	±1.3dB

General parameters

Parameter	Value
Termination	270 Ohm + 750 Ohm ll 0.15 uF VF
Feed voltage	50 V
Test Voltage	316 mV



Test specification:	4.7.2 Impedance		
Test purpose:	To verify that the return loss of the input impedance of the TE in relation to the reference impedance is not less than 6 dB at 200 - 300 Hz and not less than 8 dB at 300 - 4000 Hz.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	2/20/2008 11:57:57		
Temperature: 23degreeC	Air Pressure: 101.2kPa	Relative Humidity: 50%	Mains Power Supply: 230V
Remarks: N/A			

Return loss

Frequency	Return loss	Limit	Verdict
Condition 1: Feed polarity: Normal, Series resistance: 400 Ohm			**Pass**
200 Hz	15.51 dB	6 dB	Pass
252 Hz	15.73 dB	6 dB	Pass
318 Hz	15.78 dB	8 dB	Pass
400 Hz	15.69 dB	8 dB	Pass
504 Hz	15.44 dB	8 dB	Pass
635 Hz	15.20 dB	8 dB	Pass
801 Hz	14.71 dB	8 dB	Pass
1009 Hz	14.19 dB	8 dB	Pass
1271 Hz	13.61 dB	8 dB	Pass
1603 Hz	12.96 dB	8 dB	Pass
2020 Hz	12.33 dB	8 dB	Pass
2545 Hz	11.75 dB	8 dB	Pass
3205 Hz	11.29 dB	8 dB	Pass
4000 Hz	10.76 dB	8 dB	Pass
Condition 2: Feed polarity: Reverse, Series resistance: 850 Ohm			**Pass**
200 Hz	16.79 dB	6 dB	Pass
252 Hz	17.06 dB	6 dB	Pass
318 Hz	17.02 dB	8 dB	Pass
400 Hz	16.81 dB	8 dB	Pass
504 Hz	16.47 dB	8 dB	Pass
635 Hz	15.68 dB	8 dB	Pass
801 Hz	15.57 dB	8 dB	Pass
1009 Hz	14.56 dB	8 dB	Pass
1271 Hz	13.52 dB	8 dB	Pass
1603 Hz	12.62 dB	8 dB	Pass
2020 Hz	11.68 dB	8 dB	Pass
2545 Hz	10.76 dB	8 dB	Pass
3205 Hz	9.73 dB	8 dB	Pass
4000 Hz	8.48 dB	8 dB	Pass
Condition 3: Feed polarity: Normal, Series resistance: 2.05 kOhm			**Pass**
200 Hz	17.95 dB	6 dB	Pass
252 Hz	18.28 dB	6 dB	Pass
318 Hz	18.31 dB	8 dB	Pass
400 Hz	18.06 dB	8 dB	Pass

Test specification:	4.7.2 Impedance		
Test purpose:	To verify that the return loss of the input impedance of the TE in relation to the reference impedance is not less than 6 dB at 200 - 300 Hz and not less than 8 dB at 300 - 4000 Hz.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	2/20/2008 11:57:57		
Temperature: 23degreeC	Air Pressure: 101.2kPa	Relative Humidity: 50%	Mains Power Supply: 230V
Remarks: N/A			

Frequency	Return loss	Limit	Verdict
504 Hz	17.59 dB	8 dB	Pass
635 Hz	16.91 dB	8 dB	Pass
801 Hz	16.17 dB	8 dB	Pass
1009 Hz	15.70 dB	8 dB	Pass
1271 Hz	14.32 dB	8 dB	Pass
1603 Hz	13.34 dB	8 dB	Pass
2020 Hz	12.32 dB	8 dB	Pass
2545 Hz	11.23 dB	8 dB	Pass
3205 Hz	9.91 dB	8 dB	Pass
4000 Hz	8.30 dB	8 dB	Pass
Condition 4: Feed polarity: Reverse, Series resistance: 2.8 kOhm			**Pass**
200 Hz	18.07 dB	6 dB	Pass
252 Hz	18.39 dB	6 dB	Pass
318 Hz	18.33 dB	8 dB	Pass
400 Hz	18.21 dB	8 dB	Pass
504 Hz	17.70 dB	8 dB	Pass
635 Hz	17.15 dB	8 dB	Pass
801 Hz	16.38 dB	8 dB	Pass
1009 Hz	15.77 dB	8 dB	Pass
1271 Hz	14.56 dB	8 dB	Pass
1603 Hz	13.55 dB	8 dB	Pass
2020 Hz	12.45 dB	8 dB	Pass
2545 Hz	11.29 dB	8 dB	Pass
3205 Hz	9.90 dB	8 dB	Pass
4000 Hz	8.21 dB	8 dB	Pass

Test specification:	4.7.2 Reactive component of the impedance		
Test purpose:	To verify that in the frequency range 200 Hz to 300 Hz, the reactive component of the impedance not exceed 500 Ohm inductive (+j 500).		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	2/19/2008 22:53:29		
Temperature: 23degreeC	Air Pressure: 101.2kPa	Relative Humidity: 50%	Mains Power Supply: 230V
Remarks: N/A			

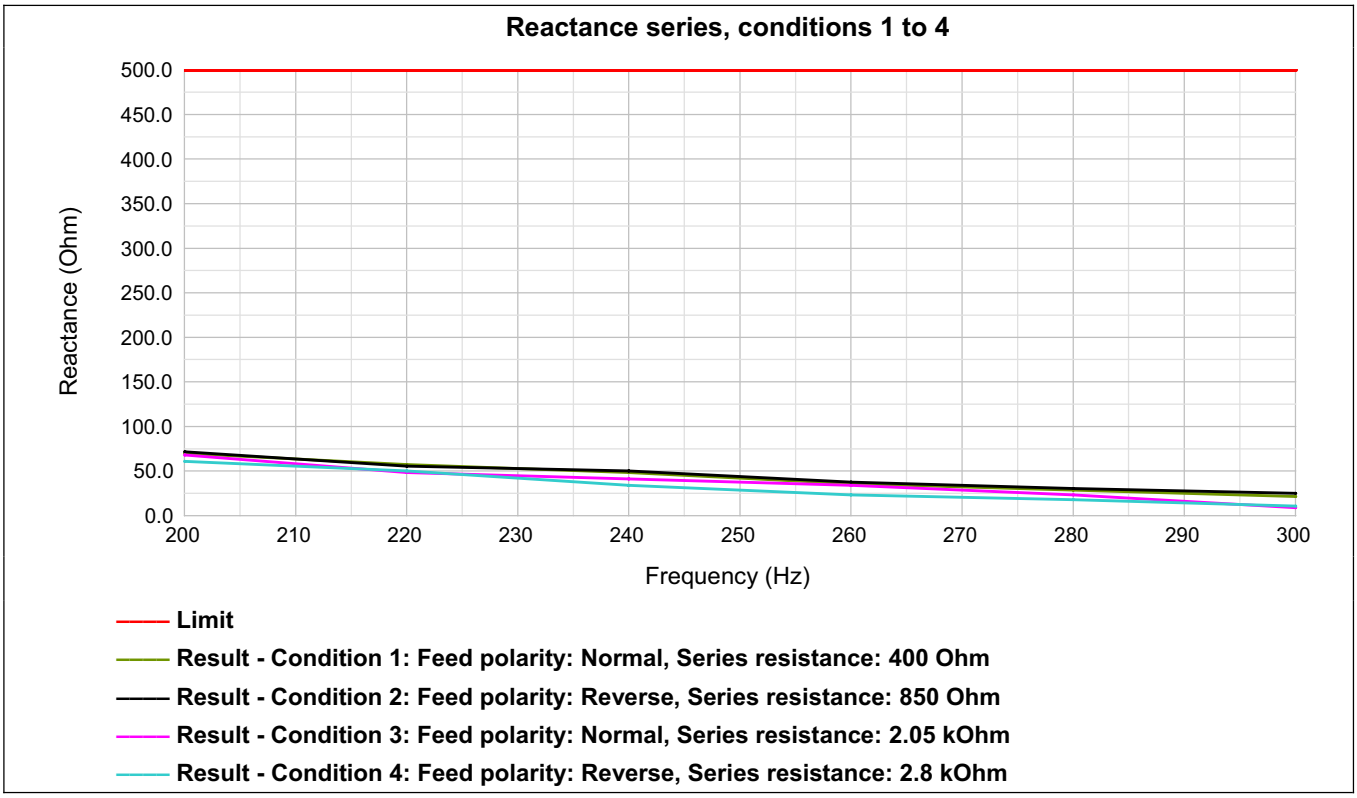
Measurement uncertainty

Expanded uncertainty, k=2 (95% confidence):

Impedance (50 to 2000 ohm)	±0.42%
Phase (50 to 2000 ohm)	±0.5%
Return Loss (0 to 30 dB RL)	±0.32dB
Return Loss (30 to 40 dB RL)	±1.3dB

General parameters

Parameter	Value
Termination R1 + R2 || C1	R1 = 270 Ohm, R2 = 750 Ohm, C1 = 150 nF
Feed voltage	50 V
Test Voltage	316 mV



Test specification:	4.7.2 Reactive component of the impedance		
Test purpose:	To verify that in the frequency range 200 Hz to 300 Hz, the reactive component of the impedance not exceed 500 Ohm inductive (+j 500).		
Test mode:	Compliance	**Verdict:**	PASS
Date & Time:	2/19/2008 22:53:29		
Temperature: 23degreeC	**Air Pressure:** 101.2kPa	**Relative Humidity:** 50%	**Mains Power Supply:** 230V
Remarks: N/A			

Impedance, Phase, Reactance series

Frequency	Impedance	Phase	Reactance	Limit	Verdict
Condition 1: Feed polarity: Normal, Series resistance: 400 Ohm					**Pass**
200 Hz	772.57 Ohm	5.1 Deg	68.8 Ohm	500 Ohm	Pass
220 Hz	772.13 Ohm	4.3 Deg	57.9 Ohm	500 Ohm	Pass
240 Hz	772.39 Ohm	3.6 Deg	49.0 Ohm	500 Ohm	Pass
260 Hz	770.36 Ohm	2.6 Deg	35.2 Ohm	500 Ohm	Pass
280 Hz	772.33 Ohm	2.1 Deg	28.5 Ohm	500 Ohm	Pass
300 Hz	774.11 Ohm	1.6 Deg	22.2 Ohm	500 Ohm	Pass
Condition 2: Feed polarity: Reverse, Series resistance: 850 Ohm					**Pass**
200 Hz	821.99 Ohm	5 Deg	71.4 Ohm	500 Ohm	Pass
220 Hz	822.20 Ohm	3.9 Deg	56.1 Ohm	500 Ohm	Pass
240 Hz	821.72 Ohm	3.5 Deg	49.7 Ohm	500 Ohm	Pass
260 Hz	818.89 Ohm	2.6 Deg	37.7 Ohm	500 Ohm	Pass
280 Hz	818.30 Ohm	2.1 Deg	30.4 Ohm	500 Ohm	Pass
300 Hz	821.56 Ohm	1.7 Deg	24.6 Ohm	500 Ohm	Pass
Condition 3: Feed polarity: Normal, Series resistance: 2.05 kOhm					**Pass**
200 Hz	858.95 Ohm	4.5 Deg	67.3 Ohm	500 Ohm	Pass
220 Hz	856.88 Ohm	3.2 Deg	48.4 Ohm	500 Ohm	Pass
240 Hz	857.74 Ohm	2.8 Deg	41.5 Ohm	500 Ohm	Pass
260 Hz	854.30 Ohm	2.2 Deg	33.1 Ohm	500 Ohm	Pass
280 Hz	852.74 Ohm	1.5 Deg	22.7 Ohm	500 Ohm	Pass
300 Hz	853.03 Ohm	0.6 Deg	9.4 Ohm	500 Ohm	Pass
Condition 4: Feed polarity: Reverse, Series resistance: 2.8 kOhm					**Pass**
200 Hz	858.17 Ohm	4.1 Deg	61.1 Ohm	500 Ohm	Pass
220 Hz	858.88 Ohm	3.3 Deg	49.3 Ohm	500 Ohm	Pass
240 Hz	857.67 Ohm	2.3 Deg	34.5 Ohm	500 Ohm	Pass
260 Hz	855.24 Ohm	1.6 Deg	23.6 Ohm	500 Ohm	Pass
280 Hz	856.94 Ohm	1.2 Deg	17.9 Ohm	500 Ohm	Pass
300 Hz	856.43 Ohm	0.7 Deg	10.1 Ohm	500 Ohm	Pass

Test specification:	4.8.2.1 Frequency combinations. 4.8.2.4 Tone duration. 4.8.2.5 Pause duration		
Test purpose:	To check whether the TE sends appropriate DTMF signal frequency combinations and to check whether the TE sends DTMF signals of the appropriate duration.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	2/19/2008 22:54:07		
Temperature: 23degreeC	Air Pressure: 101.2kPa	Relative Humidity: 50%	Mains Power Supply: 230V
Remarks: N/A			

Measurement uncertainty

Expanded uncertainty, k=2 (95% confidence):

Frequency combinations	±0.03%
Absolute levels	±0.18dB
Unwanted frequency components	±1.3dB
Pause/tone durations	±2.32%

General parameters

Parameter	Value
Series resistance	850 Ohm
Feed voltage	50 V
Required number	0123456789*#

Received digits, High group frequency, High group frequency deviation, Low group frequency, Low group frequency deviation

DTMF Digit	Expected digit	High group frequency	High group freq. deviation	Low group frequency	Low group freq. deviation	Limit min	Limit max	Verdict
								Pass
0	0	1336.0 Hz	0.00 %	941.1 Hz	0.01 %	-1.5 %	1.5 %	Pass
1	1	1209.0 Hz	0.00 %	697.0 Hz	-0.00 %	-1.5 %	1.5 %	Pass
2	2	1336.0 Hz	0.00 %	697.0 Hz	-0.00 %	-1.5 %	1.5 %	Pass
3	3	1477.0 Hz	0.00 %	697.0 Hz	-0.00 %	-1.5 %	1.5 %	Pass
4	4	1209.0 Hz	0.00 %	770.0 Hz	0.01 %	-1.5 %	1.5 %	Pass
5	5	1336.0 Hz	0.00 %	770.0 Hz	0.01 %	-1.5 %	1.5 %	Pass
6	6	1477.0 Hz	0.00 %	770.0 Hz	0.01 %	-1.5 %	1.5 %	Pass
7	7	1209.0 Hz	0.00 %	852.0 Hz	0.00 %	-1.5 %	1.5 %	Pass
8	8	1336.0 Hz	0.00 %	852.0 Hz	0.00 %	-1.5 %	1.5 %	Pass
9	9	1477.0 Hz	0.00 %	852.0 Hz	0.00 %	-1.5 %	1.5 %	Pass
*	*	1209.0 Hz	0.00 %	941.1 Hz	0.01 %	-1.5 %	1.5 %	Pass
#	#	1477.0 Hz	0.00 %	941.1 Hz	0.01 %	-1.5 %	1.5 %	Pass

Test specification:	4.8.2.1 Frequency combinations. 4.8.2.4 Tone duration. 4.8.2.5 Pause duration		
Test purpose:	To check whether the TE sends appropriate DTMF signal frequency combinations and to check whether the TE sends DTMF signals of the appropriate duration.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	2/19/2008 22:54:07		
Temperature: 23degreeC	Air Pressure: 101.2kPa	Relative Humidity: 50%	Mains Power Supply: 230V
Remarks: N/A			

Tone duration, Pause duration

DTMF Digit	Tone duration	Pause duration	Limit	Verdict
				Pass
0	87.9743 ms	388.265 ms	65 ms	Pass
1	88.7055 ms	197.779 ms	65 ms	Pass
2	89.0663 ms	218.332 ms	65 ms	Pass
3	88.998 ms	287.722 ms	65 ms	Pass
4	89.076 ms	228.306 ms	65 ms	Pass
5	88.7348 ms	208.28 ms	65 ms	Pass
6	88.8908 ms	198.217 ms	65 ms	Pass
7	89.9145 ms	238.173 ms	65 ms	Pass
8	87.906 ms	318.591 ms	65 ms	Pass
9	88.9785 ms	1.64755 s	65 ms	Pass
*	90.8505 ms	198.198 ms	65 ms	Pass
#	89.466 ms			Pass

Test specification:	4.8.2.2 Signalling levels. 4.8.2.3 Unwanted frequency components		
Test purpose:	To check that the level of any tone in the DTMF high frequency group shall be -9 dBV +2/-2.5 dB and the level of any tone in the low frequency group shall be -11 dBV +2.5/-2 dB when the TE interface is terminated with the reference impedance ZR.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	2/19/2008 22:56:04		
Temperature: 23degreeC	Air Pressure: 101.2kPa	Relative Humidity: 50%	Mains Power Supply: 230V
Remarks: N/A			

Measurement uncertainty

Expanded uncertainty, k=2 (95% confidence):

Frequency combinations	±0.03%
Absolute levels	±0.18dB
Unwanted frequency components	±1.3dB
Pause/tone durations	±2.32%

General parameters

Parameter	Value
Feed voltage	50 V
Termination	270 Ohm + 750 Ohm ll 0.15 uF VF
Required number	0123456789

High group level, Low group level

DTMF Digit	High group level	Limit min	Limit max	Low group level	Limit min	Limit max	Verdict
Condition 1: Feed polarity: Normal, Series resistance: 400 Ohm							**Pass**
0	-9.20 dBV	-11.5 dBV	-7 dBV	-11.70 dBV	-13 dBV	-8.5 dBV	Pass
1	-9.08 dBV	-11.5 dBV	-7 dBV	-11.31 dBV	-13 dBV	-8.5 dBV	Pass
2	-9.20 dBV	-11.5 dBV	-7 dBV	-11.31 dBV	-13 dBV	-8.5 dBV	Pass
3	-9.30 dBV	-11.5 dBV	-7 dBV	-11.31 dBV	-13 dBV	-8.5 dBV	Pass
4	-9.08 dBV	-11.5 dBV	-7 dBV	-11.42 dBV	-13 dBV	-8.5 dBV	Pass
5	-9.20 dBV	-11.5 dBV	-7 dBV	-11.42 dBV	-13 dBV	-8.5 dBV	Pass
6	-9.31 dBV	-11.5 dBV	-7 dBV	-11.42 dBV	-13 dBV	-8.5 dBV	Pass
7	-9.09 dBV	-11.5 dBV	-7 dBV	-11.57 dBV	-13 dBV	-8.5 dBV	Pass
8	-9.21 dBV	-11.5 dBV	-7 dBV	-11.57 dBV	-13 dBV	-8.5 dBV	Pass
9	-9.31 dBV	-11.5 dBV	-7 dBV	-11.57 dBV	-13 dBV	-8.5 dBV	Pass
Condition 2: Feed polarity: Reverse, Series resistance: 2.8 kOhm							**Pass**
0	-8.83 dBV	-11.5 dBV	-7 dBV	-11.18 dBV	-13 dBV	-8.5 dBV	Pass
1	-8.66 dBV	-11.5 dBV	-7 dBV	-10.70 dBV	-13 dBV	-8.5 dBV	Pass
2	-8.83 dBV	-11.5 dBV	-7 dBV	-10.69 dBV	-13 dBV	-8.5 dBV	Pass
3	-8.98 dBV	-11.5 dBV	-7 dBV	-10.70 dBV	-13 dBV	-8.5 dBV	Pass
4	-8.66 dBV	-11.5 dBV	-7 dBV	-10.83 dBV	-13 dBV	-8.5 dBV	Pass
5	-8.83 dBV	-11.5 dBV	-7 dBV	-10.83 dBV	-13 dBV	-8.5 dBV	Pass
6	-8.97 dBV	-11.5 dBV	-7 dBV	-10.83 dBV	-13 dBV	-8.5 dBV	Pass

Test specification:	4.8.2.2 Signalling levels. 4.8.2.3 Unwanted frequency components		
Test purpose:	To check that the level of any tone in the DTMF high frequency group shall be -9 dBV +2/-2.5 dB and the level of any tone in the low frequency group shall be -11 dBV +2.5/-2 dB when the TE interface is terminated with the reference impedance ZR.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	2/19/2008 22:56:04		
Temperature: 23degreeC	Air Pressure: 101.2kPa	Relative Humidity: 50%	Mains Power Supply: 230V
Remarks: N/A			

DTMF Digit	High group level	Limit min	Limit max	Low group level	Limit min	Limit max	Verdict
7	-8.66 dBV	-11.5 dBV	-7 dBV	-11.01 dBV	-13 dBV	-8.5 dBV	Pass
8	-8.83 dBV	-11.5 dBV	-7 dBV	-11.01 dBV	-13 dBV	-8.5 dBV	Pass
9	-8.97 dBV	-11.5 dBV	-7 dBV	-11.01 dBV	-13 dBV	-8.5 dBV	Pass

Level difference, Unwanted frequency components

DTMF Digit	Difference	Limit min	Limit max	Unwanted freq. components	Limit	Verdict
Condition 1: Feed polarity: Normal, Series resistance: 400 Ohm						**Pass**
0	2.50 dB	1 dB	4 dB	38.30 dB	20 dB	Pass
1	2.23 dB	1 dB	4 dB	38.69 dB	20 dB	Pass
2	2.10 dB	1 dB	4 dB	38.69 dB	20 dB	Pass
3	2.01 dB	1 dB	4 dB	38.69 dB	20 dB	Pass
4	2.34 dB	1 dB	4 dB	38.58 dB	20 dB	Pass
5	2.22 dB	1 dB	4 dB	38.58 dB	20 dB	Pass
6	2.12 dB	1 dB	4 dB	38.58 dB	20 dB	Pass
7	2.48 dB	1 dB	4 dB	38.43 dB	20 dB	Pass
8	2.36 dB	1 dB	4 dB	38.43 dB	20 dB	Pass
9	2.26 dB	1 dB	4 dB	38.43 dB	20 dB	Pass
Condition 2: Feed polarity: Reverse, Series resistance: 2.8 kOhm						**Pass**
0	2.35 dB	1 dB	4 dB	38.82 dB	20 dB	Pass
1	2.04 dB	1 dB	4 dB	39.30 dB	20 dB	Pass
2	1.87 dB	1 dB	4 dB	39.31 dB	20 dB	Pass
3	1.72 dB	1 dB	4 dB	39.30 dB	20 dB	Pass
4	2.17 dB	1 dB	4 dB	39.17 dB	20 dB	Pass
5	2.01 dB	1 dB	4 dB	39.17 dB	20 dB	Pass
6	1.86 dB	1 dB	4 dB	39.17 dB	20 dB	Pass
7	2.35 dB	1 dB	4 dB	38.99 dB	20 dB	Pass
8	2.18 dB	1 dB	4 dB	38.99 dB	20 dB	Pass
9	2.04 dB	1 dB	4 dB	38.99 dB	20 dB	Pass

Test specification:	4.9 Transition from loop to quiescent state		
Test purpose:	To determine, whether the TE changes correctly from the loop to the quiescent state.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	2/19/2008 22:56:42		
Temperature: 23degreeC	Air Pressure: 101.2kPa	Relative Humidity: 50%	Mains Power Supply: 230V
Remarks: N/A			

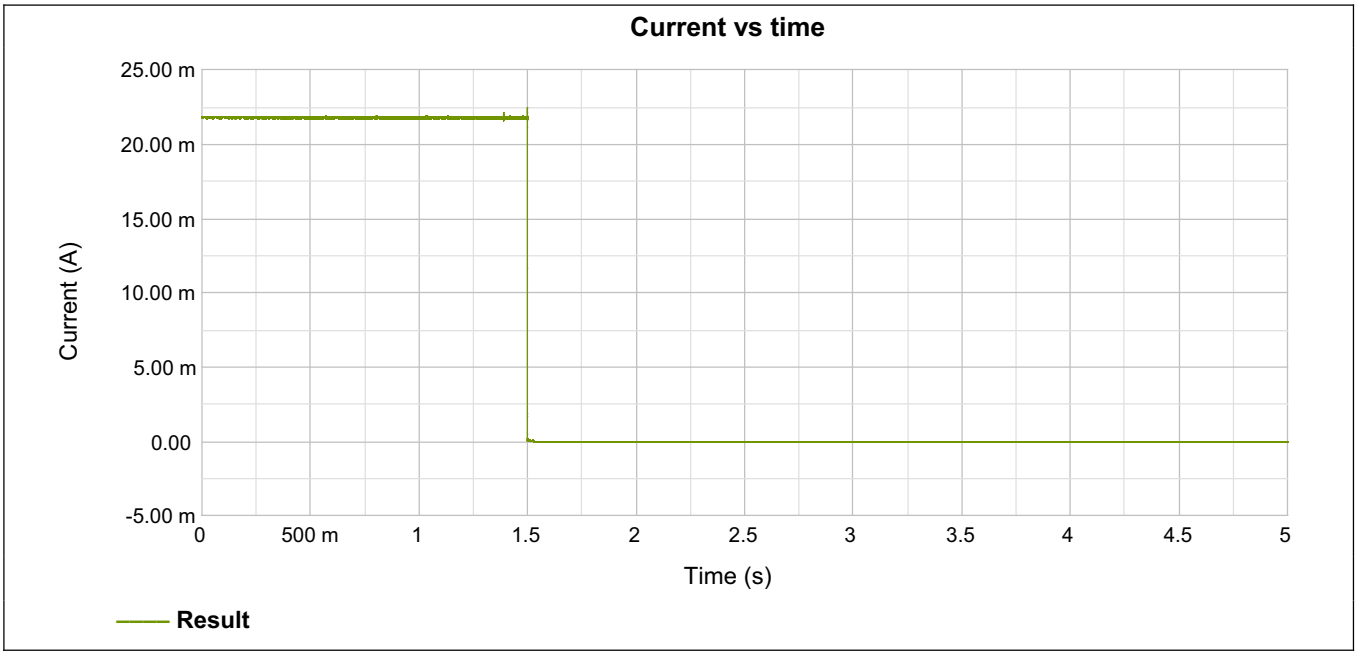
Measurement uncertainty

Expanded uncertainty, k=2 (95% confidence):

Current	±1.3%
Timing	±0.1ms

General parameters

Parameter	Value
Series resistance	2.05 kOhm
Feed voltage	50 V
Reference Level	0.01A
Ref. Stability Interval	0.02s
Drop Level	0.0005A
Ext. Stability Interval	20.00 ms



Drop time, Extended drop time

Drop time	Limit	Extended drop time	Limit	Verdict
				Pass
80 us	200 ms	> 3.5 s	1.5 s	Pass

Intertek Testing Services Hong Kong Ltd.
2/F, Garment Centre, 576 Castle Peak Road,
Kowloon, Hong Kong
Tel. 21738888
Fax. 27411693

TEST REPORT

ACCORDING TO: TBR 38 May 1998

Attachment requirements for a terminal equipment incorporating an analogue handset function capable of supporting the justified case service when connected to the analogue interface of the PSTN in Europe

FOR:

DECT Phone

CL-3333

Report ID: HK08020363-1(R1)_TBR 38 (Acoustic).doc
Date of Issue: 3/27/2008

Table of contents

1 Client information

Client name:	Xingtel Xiamen Electronics Co., Ltd.
Address:	Xingtel Building, Chuangxin Road, Torch Hi-Tech, industrial District, Xiamen, China
Telephone:	+86-592-5625929
Fax:	+86-592-6037860
E-mail:	belinda@xingtel.com
Contact name:	Simon Liu

2 Equipment Under Test

Product name:	N/A
Product type:	DECT Phone
Model(s):	CL-3333
Serial number:	N/A
Receipt date	2/11/2008

3 Manufacturer information

Manufacturer name:	Xingtel Xiamen Electronics Co., Ltd.
Address:	Xingtel Building, Chuangxin Road, Torch Hi-Tech, industrial District, Xiamen, China
Telephone:	+86-592-5625929
Fax:	+86-592-6037860
E-Mail:	belinda@xingtel.com
Contact name:	Simon Liu

4 Test project performance

Project ID:	HK08020363-1
Location:	Intertek Testing Services Hong Kong Ltd. 2/F, Garment Centre, 576 Castle Peak Road, Kowloon, Hong Kong
Test started:	2/19/2008
Test completed:	3/28/2008
Test specification(s):	TBR 38 May 1998
	Attachment requirements for a terminal equipment incorporating an analogue handset function capable of supporting the justified case service when connected to the analogue interface of the PSTN in Europe
Test suite:	TBR 38 (Acoustic)

5 Test report summary

Testing was completed against all relevant requirements of the test standard. The results obtained indicate that the product under test complies in full with the requirements tested.

The test results relate only to the items tested.

A summary of the test status of the product under test with respect to each test requirement of the standard is provided in section 10 on page 7 of this report.

Detailed test results are presented in section 11 following page 8 of this report.

	Name and Title	Date	Signature
Tested by:	Cheung Ho Yin, Danny Engineer	28 March 2008	Sign On File
Approved by:	Leung Wai Leung, Tommy Senior Manager	28 March 2008	Sign On File

6 EUT description

DECT Phone

7 Test laboratory description

Intertek Testing Services Hong Kong Ltd.

8 Test equipment used

Description	Model	S/N	Hardware Rev.	Software Rev.	Last Calibration
Telecom Conformance Analyzer	Hermon Laboratories TCA 8200	8750	A4.04	2.2.35	12/7/2006 04:10:34

9 Test results summary

Test	Status
4.2 Speech performance characteristics	
4.2.1 Sensitivity/frequency response	
4.2.1.1 Sending Sensitivity	Pass
4.2.1.2 Receiving Sensitivity	Pass
4.2.2 Sending and Receiving Loudness Ratings	
4.2.2.1 Sending Loudness Rating	Pass
4.2.2.2 Receiving Loudness Rating	Pass
4.2.3 Sidetone	Pass
4.2.4 Distortion	
4.2.4.1 Sending Distortion	Pass
4.2.4.2 Receiving Distortion	Pass
4.2.5 Linearity (variation of gain with input level)	
4.2.5.1 Sending Linearity	Pass
4.2.5.2 Receiving Linearity	Pass
4.2.6 Noise	
4.2.6.1 Sending Noise	Pass
4.2.6.2 Receiving Noise	Pass
4.2.7 Instability	Pass
4.2.8 Echo Return Loss	Pass

10 Detailed test results

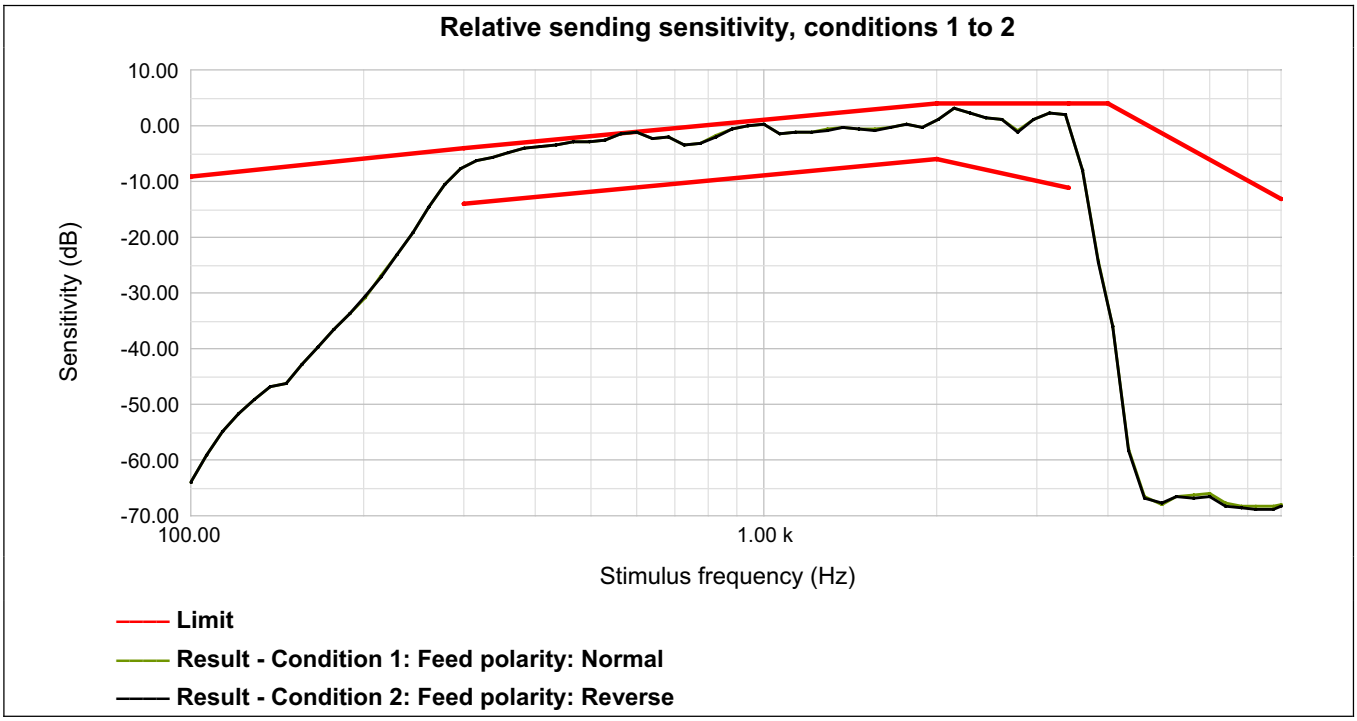
Test specification:	4.2.1.1 Sending Sensitivity		
Test purpose:	The TE shall have a sensitivity/frequency response compatible with the network and with other telephones connected to the network so as to be capable of providing adequate speech performance		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	3/27/2008 11:49:18		
Temperature:	Air Pressure:	Relative Humidity:	Mains Power Supply:
Remarks:			

Measurement uncertainty

Expanded Uncertainty, k=2 (95% confidence):
Sensitivity = ±0.85 dB

General parameters

Parameter	Value
Series resistance	1 kOhm
Feed voltage	50 V
Termination	600 Ohm VF
Stimulus sound pressure	-4.70 dBPa



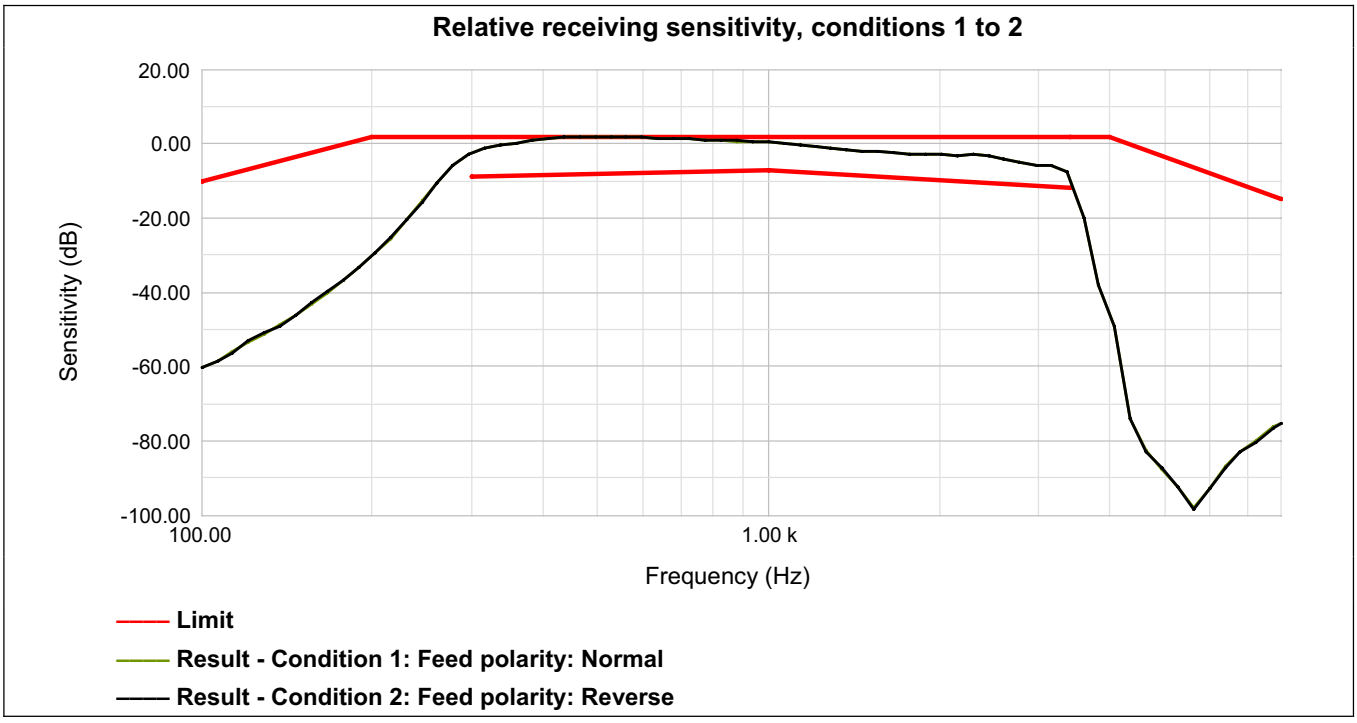
Test specification:	4.2.1.2 Receiving Sensitivity		
Test purpose:	Interworking of terminal equipment via the public telecommunications network requires the TE to have a sensitivity/frequency response compatible with the network and with other telephones connected to the network so as to be capable of providing adequate speech performance.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	3/25/2008 20:23:15		
Temperature: 23degreeC	Air Pressure: 101.2kPa	Relative Humidity: 50%	Mains Power Supply: 230V
Remarks: N/A			

Measurement uncertainty

Expanded Uncertainty, k=2 (95% confidence):
Sensitivity = ±0.23 dB

General parameters

Parameter	Value
Feed voltage	50 V
Series resistance	1 kOhm
Termination	600 Ohm VF
Stimulus level	-12.00 dBV
Fref	1 kHz
Fdrop	8 kHz



Test specification:	4.2.1.2 Receiving Sensitivity		
Test purpose:	Interworking of terminal equipment via the public telecommunications network requires the TE to have a sensitivity/frequency response compatible with the network and with other telephones connected to the network so as to be capable of providing adequate speech performance.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	3/25/2008 20:23:15		
Temperature: 23degreeC	Air Pressure: 101.2kPa	Relative Humidity: 50%	Mains Power Supply: 230V
Remarks: N/A			

Sensitivity drop

Sensitivity drop	Limit	Verdict
Condition 1: Feed polarity: Normal		**Pass**
77.14 dB	20 dB	Pass
Condition 2: Feed polarity: Reverse		**Pass**
77.58 dB	20 dB	Pass

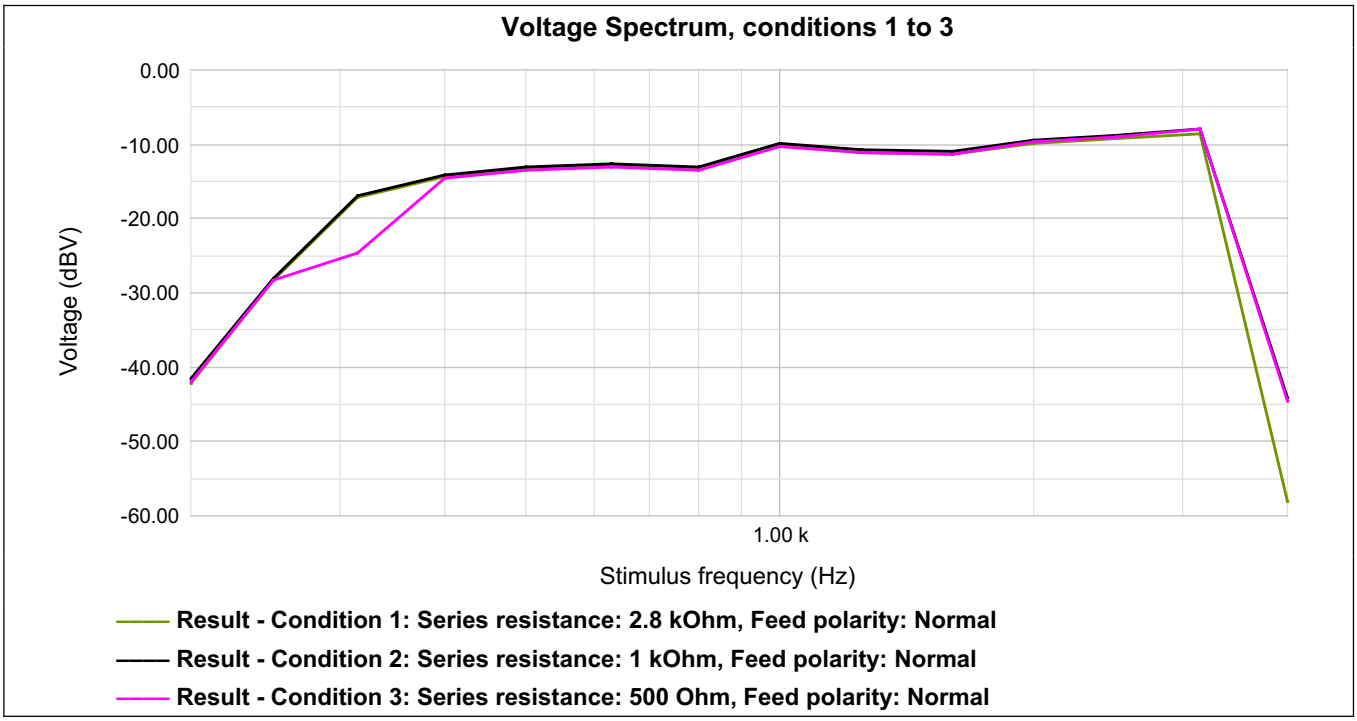
Test specification:	4.2.2.1 Sending Loudness Rating		
Test purpose:	The Sending Loudness Rating (SLR) shall be +3 dB ± 4 dB when measured with the feed resistance set to 2800 Ohm and 1000 Ohm and +3 dB + 7/- 4 dB when measured with the feed resistance set to 500 Ohm.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	3/27/2008 11:41:05		
Temperature:	Air Pressure:	Relative Humidity:	Mains Power Supply:
Remarks:			

Measurement uncertainty

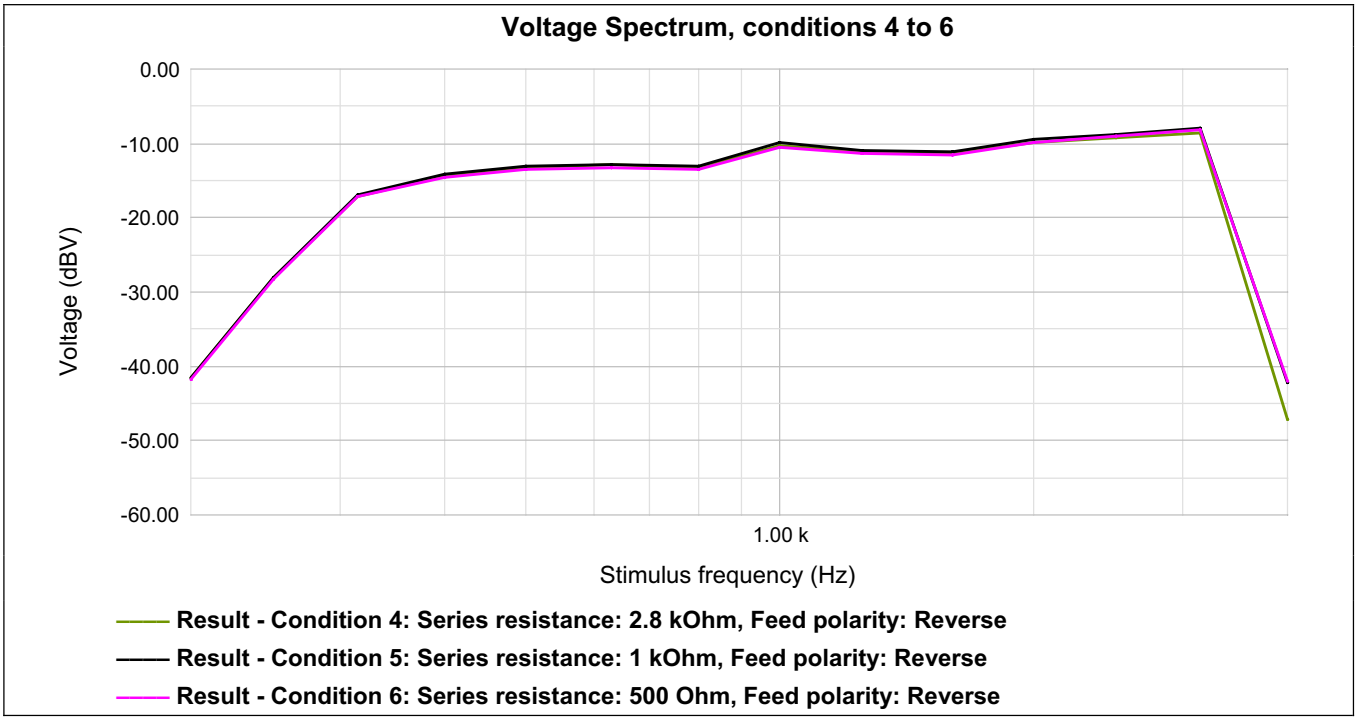
Expanded Uncertainty, k=2 (95% confidence):
Sensitivity = ±0.85 dB

General parameters

Parameter	Value
Feed voltage	50 V
Off-hook state	Off-hook
Termination	600 Ohm VF
Stimulus sound pressure	-4.70 dBPa



Test specification:	4.2.2.1 Sending Loudness Rating		
Test purpose:	The Sending Loudness Rating (SLR) shall be +3 dB ± 4 dB when measured with the feed resistance set to 2800 Ohm and 1000 Ohm and +3 dB + 7/- 4 dB when measured with the feed resistance set to 500 Ohm.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	3/27/2008 11:41:05		
Temperature:	Air Pressure:	Relative Humidity:	Mains Power Supply:
Remarks:			



Sending loudness rating

Loudness rating	Limit min	Limit max	Verdict
Condition 1: Series resistance: 2.8 kOhm, Feed polarity: Normal			**Pass**
3.69 dB	-1 dB	7 dB	Pass
Condition 2: Series resistance: 1 kOhm, Feed polarity: Normal			**Pass**
3.40 dB	-1 dB	7 dB	Pass
Condition 3: Series resistance: 500 Ohm, Feed polarity: Normal			**Pass**
4.15 dB	-1 dB	10 dB	Pass
Condition 4: Series resistance: 2.8 kOhm, Feed polarity: Reverse			**Pass**
3.69 dB	-1 dB	7 dB	Pass
Condition 5: Series resistance: 1 kOhm, Feed polarity: Reverse			**Pass**
3.44 dB	-1 dB	7 dB	Pass
Condition 6: Series resistance: 500 Ohm, Feed polarity: Reverse			**Pass**
3.83 dB	-1 dB	10 dB	Pass

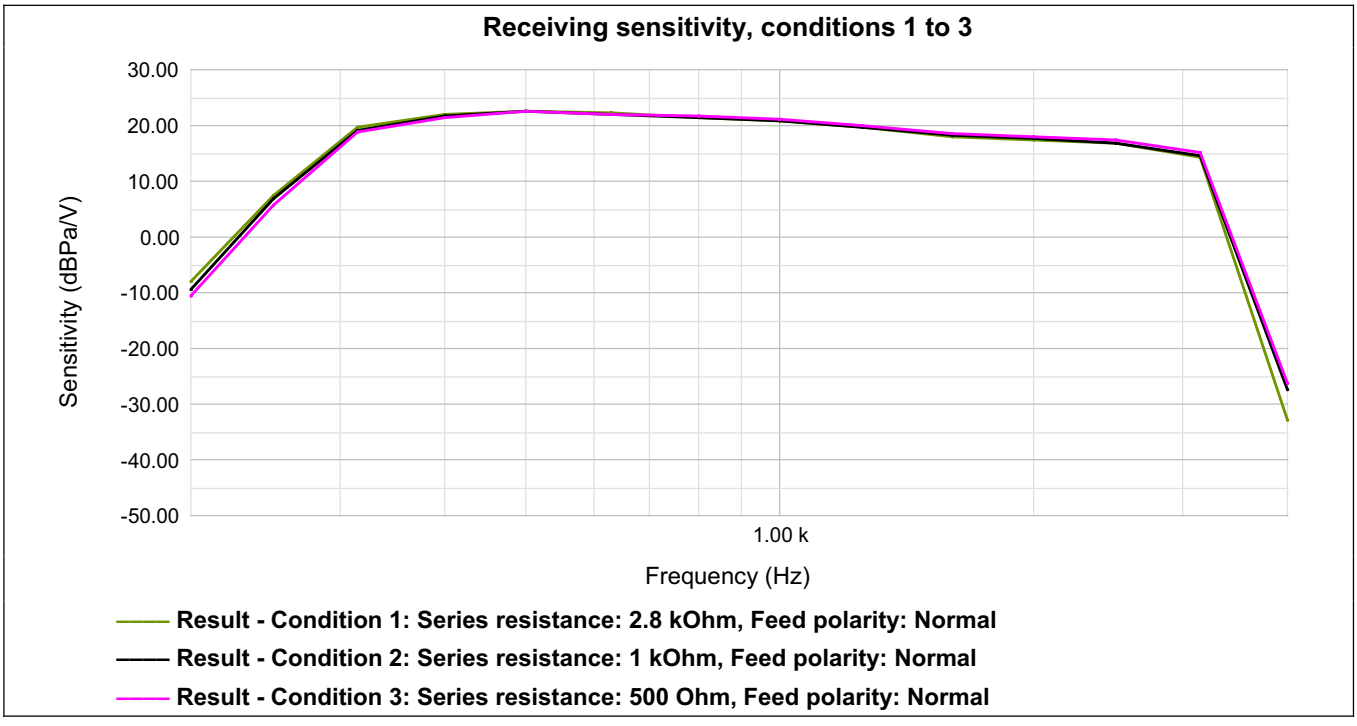
Test specification:	4.2.2.2 Receiving Loudness Rating		
Test purpose:	The Receiving Loudness Rating shall be -8 dB ± 4 dB when measured with the feed resistance set to 2800 Ohm and 1000 Ohm and -8 dB + 7/- 4 dB when measured with the feed resistance set to 500 Ohm.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	3/25/2008 20:33:44		
Temperature: 23degreeC	Air Pressure: 101.2kPa	Relative Humidity: 50%	Mains Power Supply: 230V
Remarks: N/A			

Measurement uncertainty

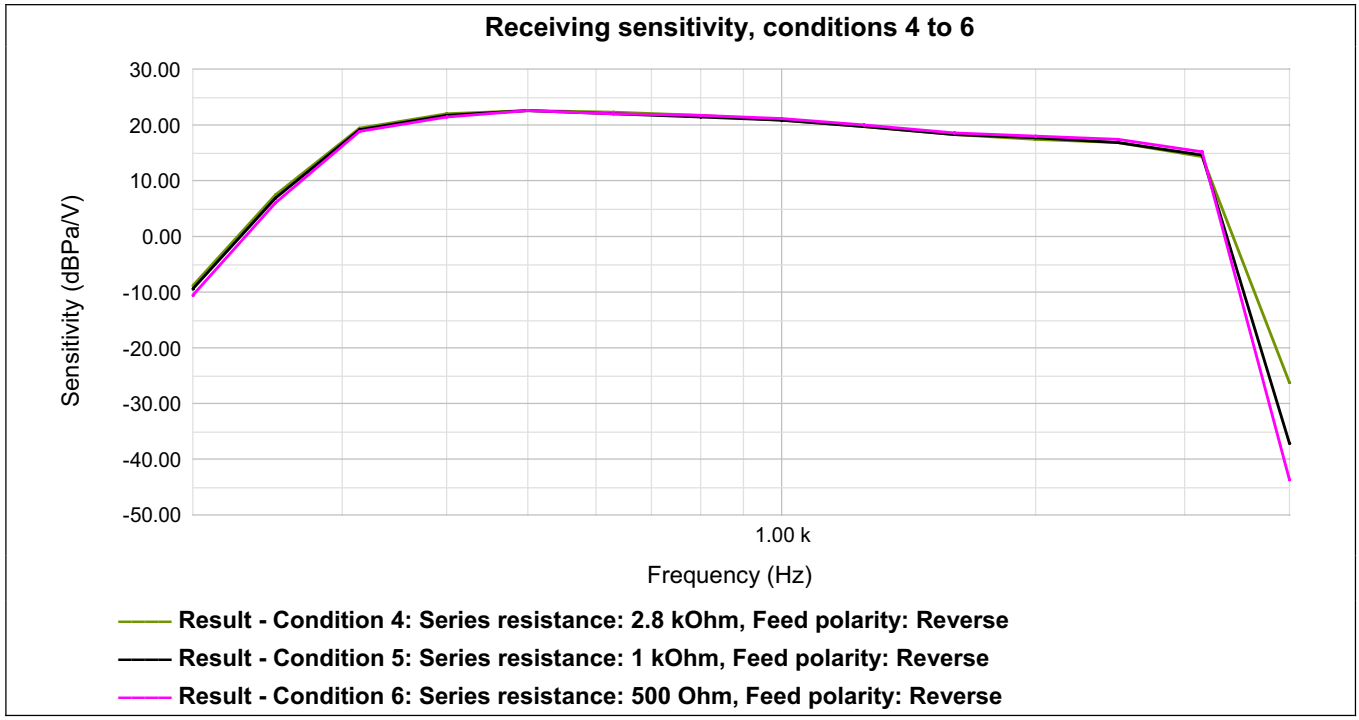
Expanded Uncertainty, k=2 (95% confidence):
Sensitivity = ±0.23 dB

General parameters

Parameter	Value
Feed voltage	50 V
Termination	600 Ohm VF
Stimulus level	-12.00 dBV



Test specification:	4.2.2.2 Receiving Loudness Rating		
Test purpose:	The Receiving Loudness Rating shall be -8 dB ± 4 dB when measured with the feed resistance set to 2800 Ohm and 1000 Ohm and -8 dB + 7/- 4 dB when measured with the feed resistance set to 500 Ohm.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	3/25/2008 20:33:44		
Temperature: 23degreeC	Air Pressure: 101.2kPa	Relative Humidity: 50%	Mains Power Supply: 230V
Remarks: N/A			



Receiving loudness rating

Loudness rating	Limit min	Limit max	Verdict
Condition 1: Series resistance: 2.8 kOhm, Feed polarity: Normal			**Pass**
-8.26 dB	-12 dB	-4 dB	Pass
Condition 2: Series resistance: 1 kOhm, Feed polarity: Normal			**Pass**
-8.16 dB	-12 dB	-4 dB	Pass
Condition 3: Series resistance: 500 Ohm, Feed polarity: Normal			**Pass**
-8.23 dB	-12 dB	-1 dB	Pass
Condition 4: Series resistance: 2.8 kOhm, Feed polarity: Reverse			**Pass**
-8.27 dB	-12 dB	-4 dB	Pass
Condition 5: Series resistance: 1 kOhm, Feed polarity: Reverse			**Pass**
-8.16 dB	-12 dB	-4 dB	Pass
Condition 6: Series resistance: 500 Ohm, Feed polarity: Reverse			**Pass**
-8.22 dB	-12 dB	-1 dB	Pass

Test specification:	4.2.3 Sidetone		
Test purpose:	The TE shall have a sidetone performance which neither disturbs the user nor interferes with the speech levels to such an extent as to render the telephone incompatible with adequate speech performance.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	3/27/2008 11:55:44		
Temperature:	Air Pressure:	Relative Humidity:	Mains Power Supply:
Remarks:			

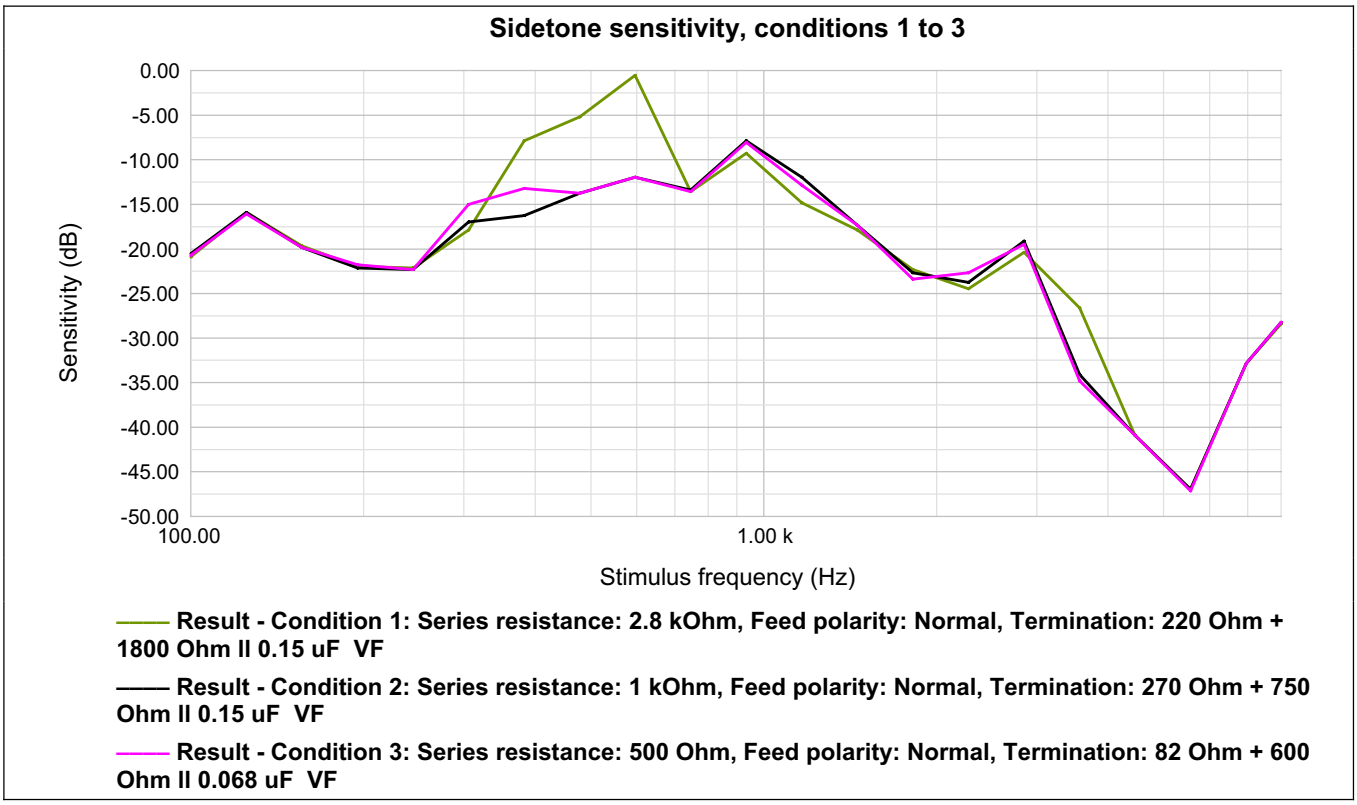
Measurement uncertainty

Expanded Uncertainty, k=2 (95% confidence):

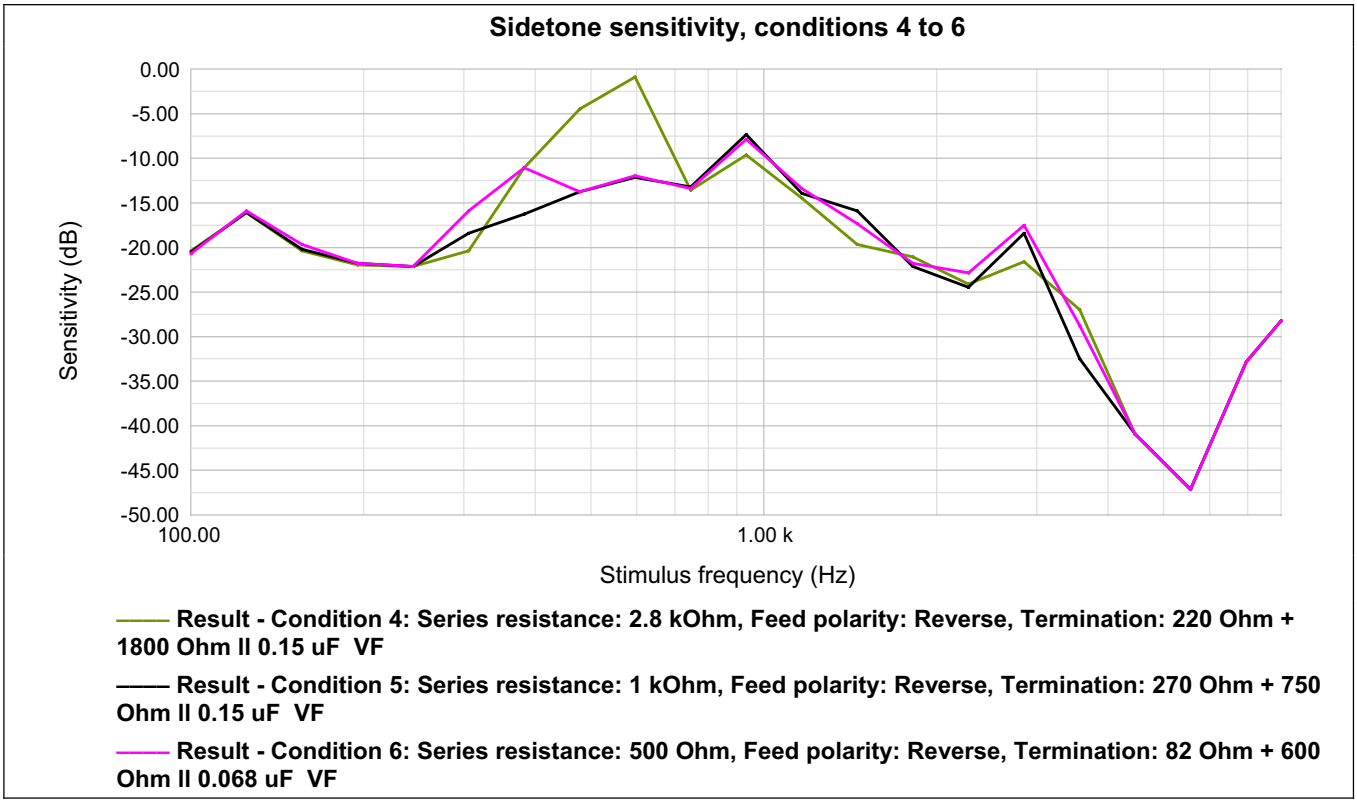
Sensitivity = ±0.92 dB

General parameters

Parameter	Value
Feed voltage	50 V
Stimulus sound pressure	-4.70 dBPa



Test specification:	4.2.3 Sidetone		
Test purpose:	The TE shall have a sidetone performance which neither disturbs the user nor interferes with the speech levels to such an extent as to render the telephone incompatible with adequate speech performance.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	3/27/2008 11:55:44		
Temperature:	Air Pressure:	Relative Humidity:	Mains Power Supply:
Remarks:			



Sidetone masking ratio

STMR	Limit	Verdict
Condition 1: Series resistance: 2.8 kOhm, Feed polarity: Normal, Termination: 220 Ohm + 1800 Ohm II 0.15 uF VF		**Pass**
22.13 dB	7 dB	Pass
Condition 2: Series resistance: 1 kOhm, Feed polarity: Normal, Termination: 270 Ohm + 750 Ohm II 0.15 uF VF		**Pass**
23.03 dB	10 dB	Pass
Condition 3: Series resistance: 500 Ohm, Feed polarity: Normal, Termination: 82 Ohm + 600 Ohm II 0.068 uF VF		**Pass**
23.16 dB	5 dB	Pass
Condition 4: Series resistance: 2.8 kOhm, Feed polarity: Reverse, Termination: 220 Ohm + 1800 Ohm II 0.15 uF VF		**Pass**
22.40 dB	7 dB	Pass

Test specification:	4.2.3 Sidetone		
Test purpose:	The TE shall have a sidetone performance which neither disturbs the user nor interferes with the speech levels to such an extent as to render the telephone incompatible with adequate speech performance.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	3/27/2008 11:55:44		
Temperature:	Air Pressure:	Relative Humidity:	Mains Power Supply:
Remarks:			

STMR	Limit	Verdict
Condition 5: Series resistance: 1 kOhm, Feed polarity: Reverse, Termination: 270 Ohm + 750 Ohm ll 0.15 uF VF		**Pass**
22.89 dB	10 dB	Pass
Condition 6: Series resistance: 500 Ohm, Feed polarity: Reverse, Termination: 82 Ohm + 600 Ohm ll 0.068 uF VF		**Pass**
22.55 dB	5 dB	Pass

Test specification:	4.2.4.1 Sending Distortion		
Test purpose:	The "total" harmonic distortion (summed up to the 5th harmonic) for fundamental frequencies in the range 315 Hz to 1000 Hz shall be not greater than 7 % with an input of -4,7 dBPa when measured with a load of 600 Ohm.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	3/27/2008 12:00:53		
Temperature:	Air Pressure:	Relative Humidity:	Mains Power Supply:
Remarks:			

Measurement uncertainty

Expanded Uncertainty, k=2 (95% confidence):
Voltage level = ±0.85 dB

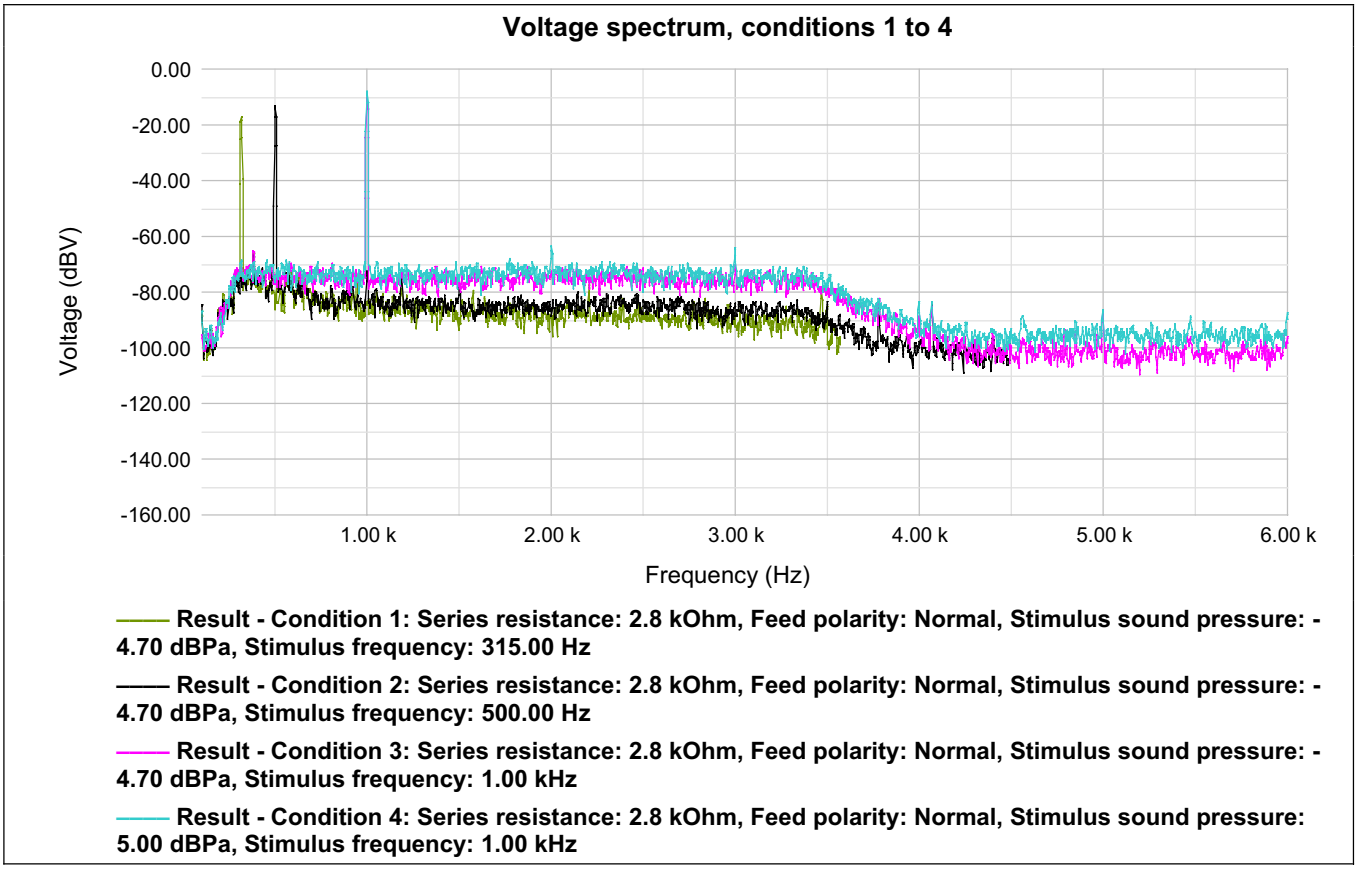
General parameters

Parameter	Value
Feed voltage	50 V
Termination	600 Ohm VF
Total harmonics	5

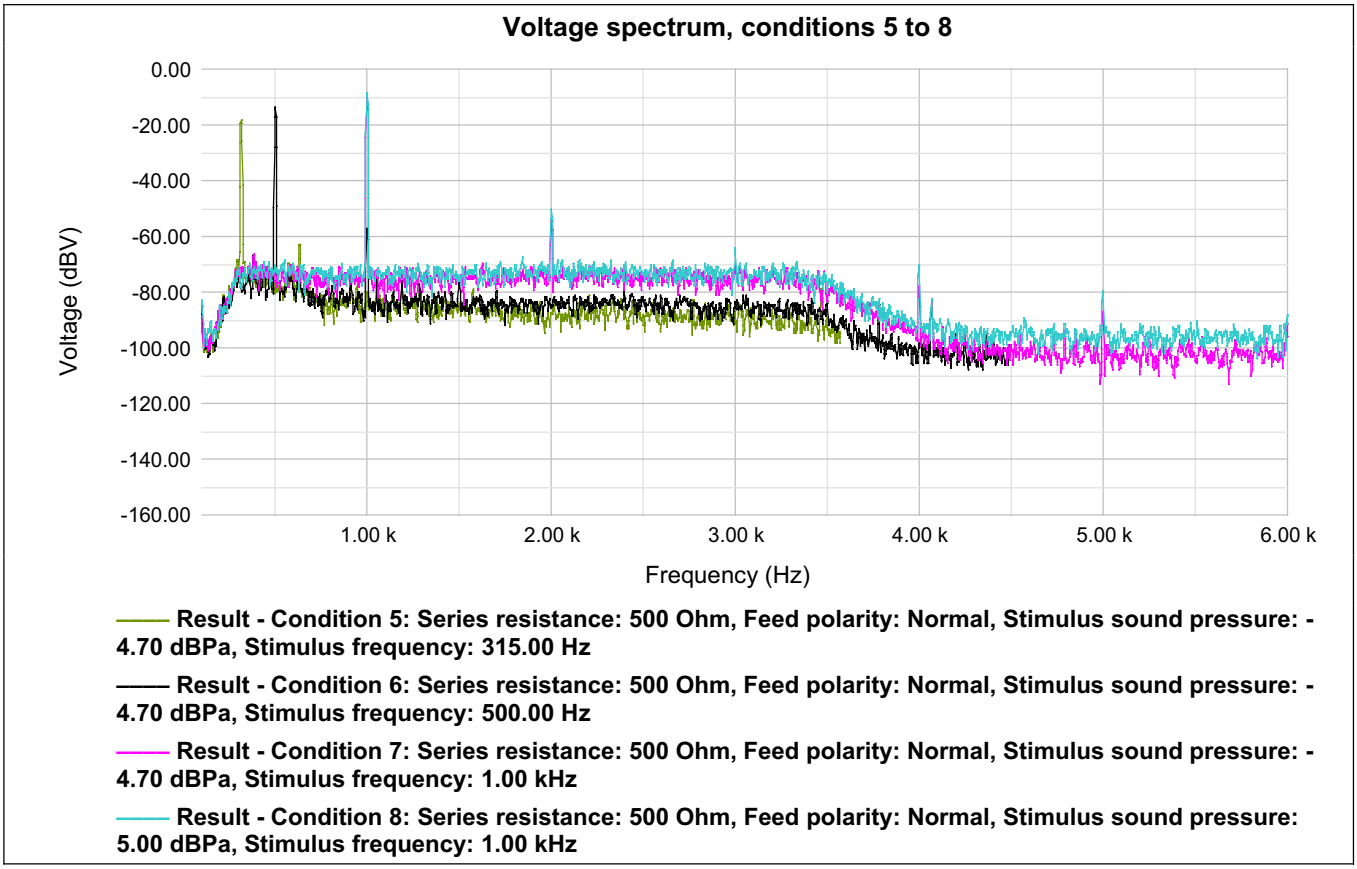
Test ranges

Frequency	
Start	Stop
100.00 Hz	6.00 kHz

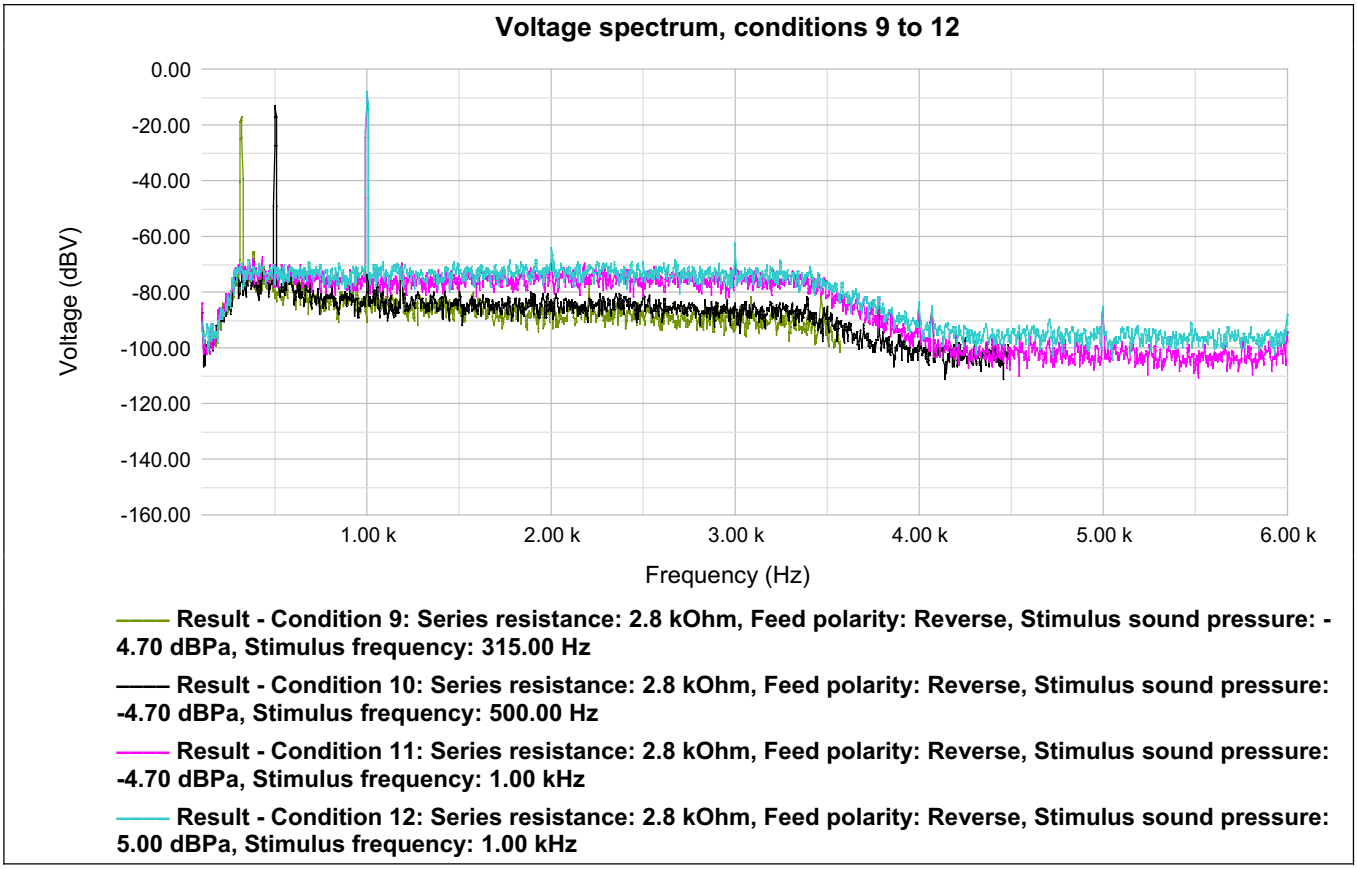
Test specification:	4.2.4.1 Sending Distortion		
Test purpose:	The "total" harmonic distortion (summed up to the 5th harmonic) for fundamental frequencies in the range 315 Hz to 1000 Hz shall be not greater than 7 % with an input of -4,7 dBPa when measured with a load of 600 Ohm.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	3/27/2008 12:00:53		
Temperature:	Air Pressure:	Relative Humidity:	Mains Power Supply:
Remarks:			



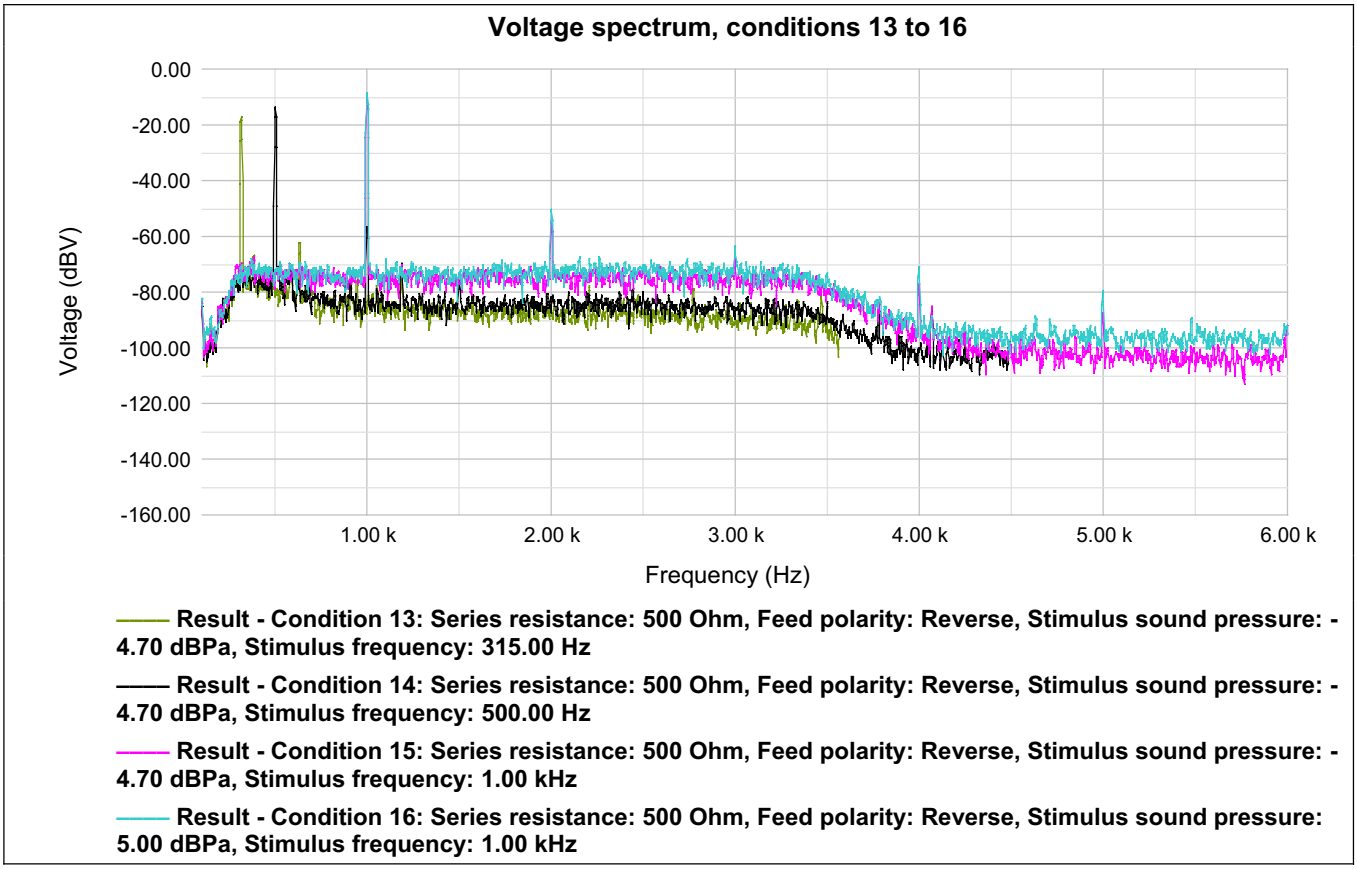
Test specification:	4.2.4.1 Sending Distortion		
Test purpose:	The "total" harmonic distortion (summed up to the 5th harmonic) for fundamental frequencies in the range 315 Hz to 1000 Hz shall be not greater than 7 % with an input of -4,7 dBPa when measured with a load of 600 Ohm.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	3/27/2008 12:00:53		
Temperature:	Air Pressure:	Relative Humidity:	Mains Power Supply:
Remarks:			



Test specification:	4.2.4.1 Sending Distortion		
Test purpose:	The "total" harmonic distortion (summed up to the 5th harmonic) for fundamental frequencies in the range 315 Hz to 1000 Hz shall be not greater than 7 % with an input of -4,7 dBPa when measured with a load of 600 Ohm.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	3/27/2008 12:00:53		
Temperature:	Air Pressure:	Relative Humidity:	Mains Power Supply:
Remarks:			



Test specification:	4.2.4.1 Sending Distortion		
Test purpose:	The "total" harmonic distortion (summed up to the 5th harmonic) for fundamental frequencies in the range 315 Hz to 1000 Hz shall be not greater than 7 % with an input of -4,7 dBPa when measured with a load of 600 Ohm.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	3/27/2008 12:00:53		
Temperature:	Air Pressure:	Relative Humidity:	Mains Power Supply:
Remarks:			



Sending distortion

Distortion	Limit	Verdict
Condition 1: Series resistance: 2.8 kOhm, Feed polarity: Normal, Stimulus sound pressure: -4.70 dBPa, Stimulus frequency: 315.00 Hz		**Pass**
0.8 %	7 %	Pass
Condition 2: Series resistance: 2.8 kOhm, Feed polarity: Normal, Stimulus sound pressure: -4.70 dBPa, Stimulus frequency: 500.00 Hz		**Pass**
0.6 %	7 %	Pass
Condition 3: Series resistance: 2.8 kOhm, Feed polarity: Normal, Stimulus sound pressure: -4.70 dBPa, Stimulus frequency: 1.00 kHz		**Pass**
1.1 %	7 %	Pass
Condition 4: Series resistance: 2.8 kOhm, Feed polarity: Normal, Stimulus sound pressure: 5.00 dBPa, Stimulus frequency: 1.00 kHz		**Pass**
1.0 %	10 %	Pass

Test specification:	4.2.4.1 Sending Distortion		
Test purpose:	The "total" harmonic distortion (summed up to the 5th harmonic) for fundamental frequencies in the range 315 Hz to 1000 Hz shall be not greater than 7 % with an input of -4,7 dBPa when measured with a load of 600 Ohm.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	3/27/2008 12:00:53		
Temperature:	Air Pressure:	Relative Humidity:	Mains Power Supply:
Remarks:			

Distortion	Limit	Verdict
Condition 5: Series resistance: 500 Ohm, Feed polarity: Normal, Stimulus sound pressure: -4.70 dBPa, Stimulus frequency: 315.00 Hz		**Pass**
1.2 %	7 %	Pass
Condition 6: Series resistance: 500 Ohm, Feed polarity: Normal, Stimulus sound pressure: -4.70 dBPa, Stimulus frequency: 500.00 Hz		**Pass**
0.9 %	7 %	Pass
Condition 7: Series resistance: 500 Ohm, Feed polarity: Normal, Stimulus sound pressure: -4.70 dBPa, Stimulus frequency: 1.00 kHz		**Pass**
1.4 %	7 %	Pass
Condition 8: Series resistance: 500 Ohm, Feed polarity: Normal, Stimulus sound pressure: 5.00 dBPa, Stimulus frequency: 1.00 kHz		**Pass**
1.4 %	10 %	Pass
Condition 9: Series resistance: 2.8 kOhm, Feed polarity: Reverse, Stimulus sound pressure: -4.70 dBPa, Stimulus frequency: 315.00 Hz		**Pass**
0.9 %	7 %	Pass
Condition 10: Series resistance: 2.8 kOhm, Feed polarity: Reverse, Stimulus sound pressure: -4.70 dBPa, Stimulus frequency: 500.00 Hz		**Pass**
0.6 %	7 %	Pass
Condition 11: Series resistance: 2.8 kOhm, Feed polarity: Reverse, Stimulus sound pressure: -4.70 dBPa, Stimulus frequency: 1.00 kHz		**Pass**
1.1 %	7 %	Pass
Condition 12: Series resistance: 2.8 kOhm, Feed polarity: Reverse, Stimulus sound pressure: 5.00 dBPa, Stimulus frequency: 1.00 kHz		**Pass**
1.1 %	10 %	Pass
Condition 13: Series resistance: 500 Ohm, Feed polarity: Reverse, Stimulus sound pressure: -4.70 dBPa, Stimulus frequency: 315.00 Hz		**Pass**
1.0 %	7 %	Pass
Condition 14: Series resistance: 500 Ohm, Feed polarity: Reverse, Stimulus sound pressure: -4.70 dBPa, Stimulus frequency: 500.00 Hz		**Pass**
0.9 %	7 %	Pass
Condition 15: Series resistance: 500 Ohm, Feed polarity: Reverse, Stimulus sound pressure: -4.70 dBPa, Stimulus frequency: 1.00 kHz		**Pass**
1.3 %	7 %	Pass
Condition 16: Series resistance: 500 Ohm, Feed polarity: Reverse, Stimulus sound pressure: 5.00 dBPa, Stimulus frequency: 1.00 kHz		**Pass**
1.4 %	10 %	Pass

Test specification:	4.2.4.2 Receiving Distortion		
Test purpose:	The "total" harmonic distortion (summed up to the 5th harmonic) for fundamental frequencies in the range 315 Hz to 1000 Hz shall be not greater than 7 %, when measured with an input e.m.f. of -12 dBV.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	3/25/2008 20:50:16		
Temperature: 23degreeC	Air Pressure: 101.2kPa	Relative Humidity: 50%	Mains Power Supply: 230V
Remarks: N/A			

Measurement uncertainty

Expanded Uncertainty, k=2 (95% confidence):
Voltage level = ±0.23 dB

General parameters

Parameter	Value
Feed voltage	50 V
Termination	600 Ohm VF
Total harmonics	5

Test ranges

Frequency	
Start	Stop
100.00 Hz	10.00 kHz

Receiving distortion

Distortion	Limit	Verdict
Condition 1: Series resistance: 2.8 kOhm, Feed polarity: Normal, Stimulus level: -12.00 dBV, Stimulus frequency: 315.00 Hz		**Pass**
0.56%	7 %	Pass
Condition 2: Series resistance: 2.8 kOhm, Feed polarity: Normal, Stimulus level: -12.00 dBV, Stimulus frequency: 500.00 Hz		**Pass**
0.43%	7 %	Pass
Condition 3: Series resistance: 2.8 kOhm, Feed polarity: Normal, Stimulus level: -12.00 dBV, Stimulus frequency: 1.00 kHz		**Pass**
0.66%	7 %	Pass
Condition 4: Series resistance: 2.8 kOhm, Feed polarity: Normal, Stimulus level: 0.00 dBV, Stimulus frequency: 1.00 kHz		**Pass**
0.63%	10 %	Pass
Condition 5: Series resistance: 500 Ohm, Feed polarity: Normal, Stimulus level: -12.00 dBV, Stimulus frequency: 315.00 Hz		**Pass**
0.79%	7 %	Pass
Condition 6: Series resistance: 500 Ohm, Feed polarity: Normal, Stimulus level: -12.00 dBV, Stimulus frequency: 500.00 Hz		**Pass**
0.46%	7 %	Pass

Test specification:	4.2.4.2 Receiving Distortion		
Test purpose:	The "total" harmonic distortion (summed up to the 5th harmonic) for fundamental frequencies in the range 315 Hz to 1000 Hz shall be not greater than 7 %, when measured with an input e.m.f. of -12 dBV.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	3/25/2008 20:50:16		
Temperature: 23degreeC	Air Pressure: 101.2kPa	Relative Humidity: 50%	Mains Power Supply: 230V
Remarks: N/A			

Distortion	Limit	Verdict
Condition 7: Series resistance: 500 Ohm, Feed polarity: Normal, Stimulus level: -12.00 dBV, Stimulus frequency: 1.00 kHz		**Pass**
0.76%	7 %	Pass
Condition 8: Series resistance: 500 Ohm, Feed polarity: Normal, Stimulus level: 0.00 dBV, Stimulus frequency: 1.00 kHz		**Pass**
0.91%	10 %	Pass
Condition 9: Series resistance: 2.8 kOhm, Feed polarity: Reverse, Stimulus level: -12.00 dBV, Stimulus frequency: 315.00 Hz		**Pass**
0.55%	7 %	Pass
Condition 10: Series resistance: 2.8 kOhm, Feed polarity: Reverse, Stimulus level: -12.00 dBV, Stimulus frequency: 500.00 Hz		**Pass**
0.43%	7 %	Pass
Condition 11: Series resistance: 2.8 kOhm, Feed polarity: Reverse, Stimulus level: -12.00 dBV, Stimulus frequency: 1.00 kHz		**Pass**
0.65%	7 %	Pass
Condition 12: Series resistance: 2.8 kOhm, Feed polarity: Reverse, Stimulus level: 0.00 dBV, Stimulus frequency: 1.00 kHz		**Pass**
0.68%	10 %	Pass
Condition 13: Series resistance: 500 Ohm, Feed polarity: Reverse, Stimulus level: -12.00 dBV, Stimulus frequency: 315.00 Hz		**Pass**
0.78%	7 %	Pass
Condition 14: Series resistance: 500 Ohm, Feed polarity: Reverse, Stimulus level: -12.00 dBV, Stimulus frequency: 500.00 Hz		**Pass**
0.46%	7 %	Pass
Condition 15: Series resistance: 500 Ohm, Feed polarity: Reverse, Stimulus level: -12.00 dBV, Stimulus frequency: 1.00 kHz		**Pass**
0.72%	7 %	Pass
Condition 16: Series resistance: 500 Ohm, Feed polarity: Reverse, Stimulus level: 0.00 dBV, Stimulus frequency: 1.00 kHz		**Pass**
0.89%	10 %	Pass

Test specification:	4.2.5.1 Sending Linearity		
Test purpose:	The sensitivity determined with an input sound pressure level of -4,7 dBPa shall not differ by more than ±2 dB from the sensitivity determined with an input sound pressure level of -19,7 dBPa when measured with a load of 600 Ohm.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	3/27/2008 12:01:31		
Temperature:	Air Pressure:	Relative Humidity:	Mains Power Supply:
Remarks:			

Measurement uncertainty

Expanded Uncertainty, k=2 (95% confidence):
Sensitivity = ±0.85 dB

General parameters

Parameter	Value
Series resistance	1 kOhm
Termination	600 Ohm VF
Feed voltage	50 V
Stimulus frequency	1.00 kHz

Sending linearity

Sending linearity	Limit min	Limit max	Verdict
Condition 1: Feed polarity: Normal			**Pass**
0.08 dB	-2 dB	2 dB	Pass
Condition 2: Feed polarity: Reverse			**Pass**
0.11 dB	-2 dB	2 dB	Pass

Sending sensitivity

Stimulus sound pressure	Sensitivity	Verdict
Condition 1: Feed polarity: Normal		**-**
-19.70 dBPa	-5.55 dBV/Pa	-
-4.70 dBPa	-5.47 dBV/Pa	-
Condition 2: Feed polarity: Reverse		**-**
-19.70 dBPa	-5.56 dBV/Pa	-
-4.70 dBPa	-5.45 dBV/Pa	-

Test specification:	4.2.5.2 Receiving Linearity		
Test purpose:	The sensitivity determined with an input signal with an e.m.f. of -12 dBV shall not differ by more than ±2 dB from the sensitivity determined with an input signal with an e.m.f. of -32 dBV.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	3/25/2008 20:52:02		
Temperature: 23degreeC	Air Pressure: 101.2kPa	Relative Humidity: 50%	Mains Power Supply: 230V
Remarks: N/A			

Measurement uncertainty

Expanded Uncertainty, k=2 (95% confidence):
Sensitivity = ±0.23 dB

General parameters

Parameter	Value
Series resistance	1 kOhm
Feed voltage	50 V
Stimulus frequency	1.00 kHz
Termination	600 Ohm VF

Receiving linearity

Receiving linearity	Limit min	Limit max	Verdict
Condition 1: Feed polarity: Normal			**Pass**
0.02 dB	-2 dB	2 dB	Pass
Condition 2: Feed polarity: Reverse			**Pass**
1.53 dB	-2 dB	2 dB	Pass

Receiving sensitivity

Stimulus level	Sensitivity	Verdict
Condition 1: Feed polarity: Normal		**-**
-32.00 dBV	20.86 dBPa/V	-
-12.00 dBV	20.88 dBPa/V	-
Condition 2: Feed polarity: Reverse		**-**
-32.00 dBV	19.35 dBPa/V	-
-12.00 dBV	20.88 dBPa/V	-

Test specification:	4.2.6.1 Sending Noise		
Test purpose:	The sending noise shall be not greater than -66 dBVp when the feed resistance is set to 500 Ohm, -64 dBVp when the feed resistance is set to 1000 Ohm, and -60 dBVp when the feed resistance is set to 2800 Ohm.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	3/25/2008 20:55:02		
Temperature: 23degreeC	Air Pressure: 101.2kPa	Relative Humidity: 50%	Mains Power Supply: 230V
Remarks: N/A			

Measurement uncertainty

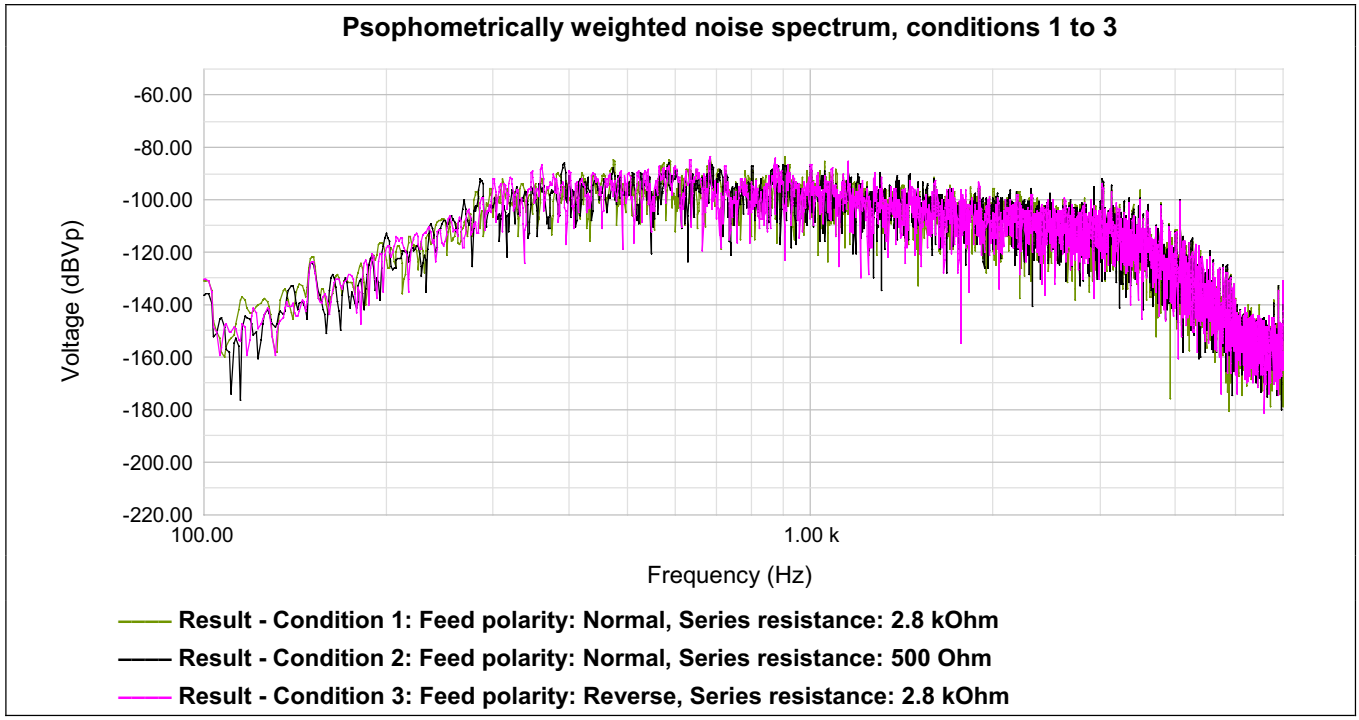
Expanded Uncertainty, k=2 (95% confidence) Sending noise in ranges:

<50 Hz - 200 Hz SPL = ±2.85 dB
<200 Hz - 3000 Hz SPL = ±1.85 dB
<3000 Hz - 3500 Hz SPL = ±2.85 dB
<3500 Hz - 6000 Hz SPL = ±3.85 dB

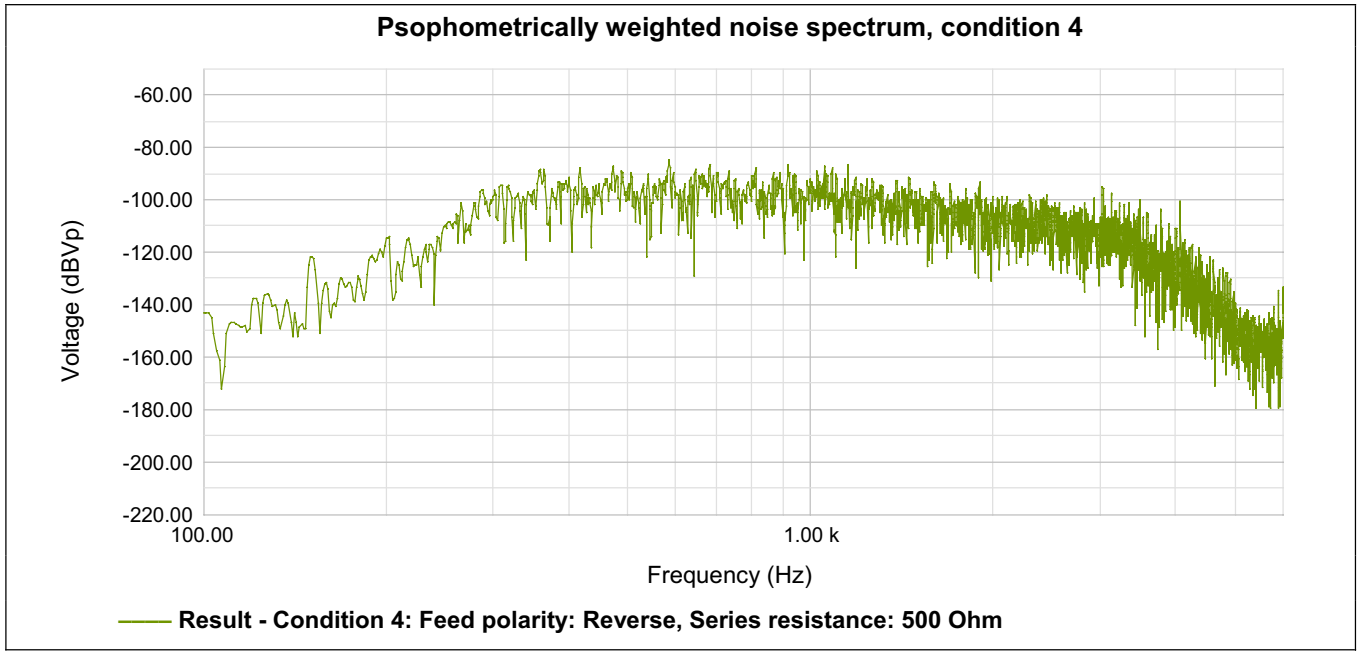
General parameters

Parameter	Value
Termination	600 Ohm VF
Feed voltage	50 V
No. of acquisitions	3
Acquisition time	1s
Overall meas. time	30 s

Test specification:	4.2.6.1 Sending Noise		
Test purpose:	The sending noise shall be not greater than -66 dBVp when the feed resistance is set to 500 Ohm, -64 dBVp when the feed resistance is set to 1000 Ohm, and -60 dBVp when the feed resistance is set to 2800 Ohm.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	3/25/2008 20:55:02		
Temperature: 23degreeC	Air Pressure: 101.2kPa	Relative Humidity: 50%	Mains Power Supply: 230V
Remarks: N/A			



Test specification:	4.2.6.1 Sending Noise		
Test purpose:	The sending noise shall be not greater than -66 dBVp when the feed resistance is set to 500 Ohm, -64 dBVp when the feed resistance is set to 1000 Ohm, and -60 dBVp when the feed resistance is set to 2800 Ohm.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	3/25/2008 20:55:02		
Temperature: 23degreeC	Air Pressure: 101.2kPa	Relative Humidity: 50%	Mains Power Supply: 230V
Remarks: N/A			



Max sending noise

Level	Limit	Verdict
Condition 1: Feed polarity: Normal, Series resistance: 2.8 kOhm		**Pass**
-69.30 dBVp	-60 dBVp	Pass
Condition 2: Feed polarity: Normal, Series resistance: 500 Ohm		**Pass**
-69.52 dBVp	-66 dBVp	Pass
Condition 3: Feed polarity: Reverse, Series resistance: 2.8 kOhm		**Pass**
-69.07 dBVp	-60 dBVp	Pass
Condition 4: Feed polarity: Reverse, Series resistance: 500 Ohm		**Pass**
-69.10 dBVp	-66 dBVp	Pass

Test specification:	4.2.6.2 Receiving Noise		
Test purpose:	The A-weighted noise produced by the apparatus in the receiving direction shall be not greater than -49 dBPa(A)		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	3/25/2008 20:58:30		
Temperature: 23degreeC	Air Pressure: 101.2kPa	Relative Humidity: 50%	Mains Power Supply: 230V
Remarks: N/A			

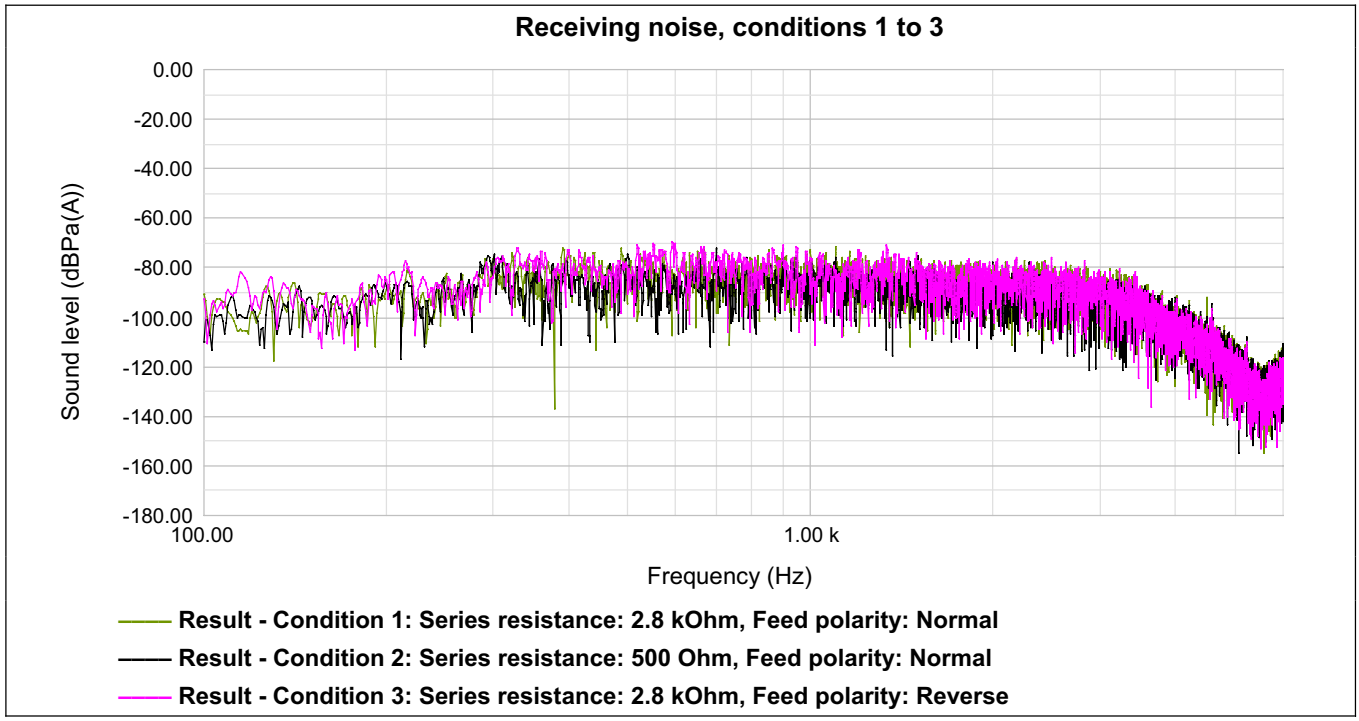
Measurement uncertainty

Expanded Uncertainty, k=2 (95% confidence):

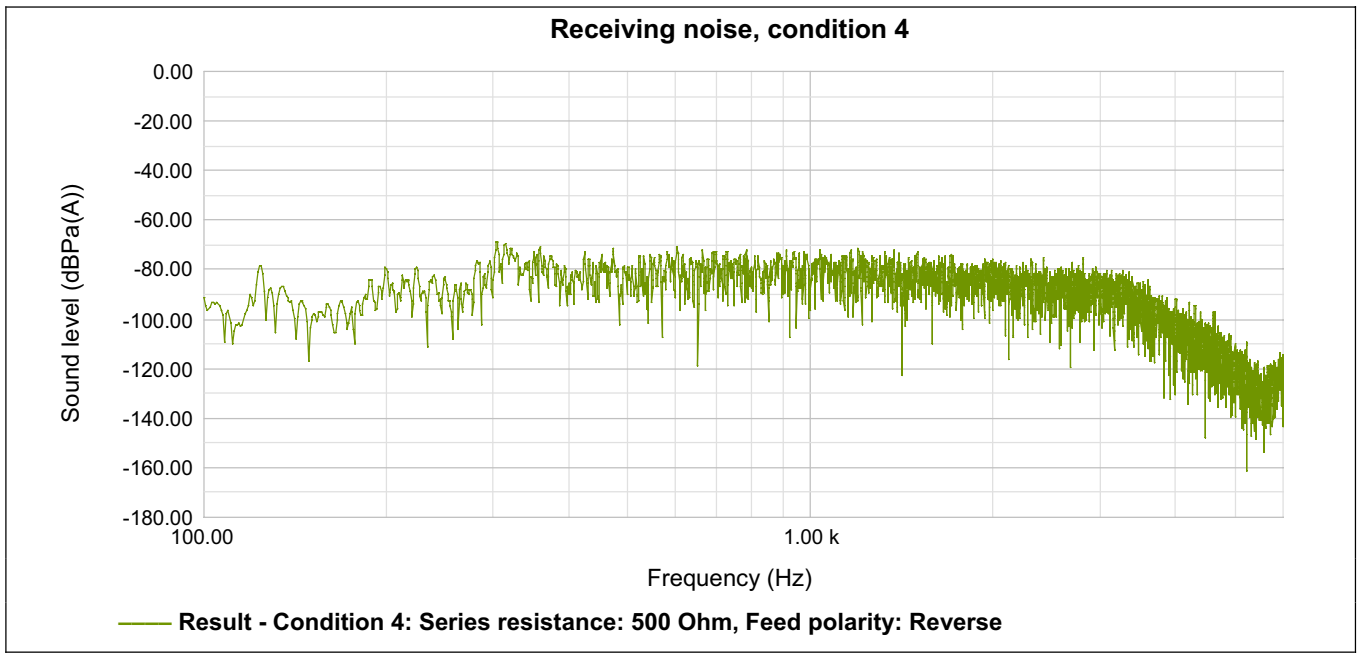
SPL = ±0.23 dB

General parameters

Parameter	Value
Feed voltage	50 V
Termination	600 Ohm VF
Acquisition time	1s
No. of acquisitions	3
Overall meas. time	30 s



Test specification:	4.2.6.2 Receiving Noise		
Test purpose:	The A-weighted noise produced by the apparatus in the receiving direction shall be not greater than -49 dBPa(A)		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	3/25/2008 20:58:30		
Temperature: 23degreeC	Air Pressure: 101.2kPa	Relative Humidity: 50%	Mains Power Supply: 230V
Remarks: N/A			



Max receiving noise

Sound level	Limit	Verdict
Condition 1: Series resistance: 2.8 kOhm, Feed polarity: Normal		**Pass**
-51.90 dBPa(A)	-49 dBPa(A)	Pass
Condition 2: Series resistance: 500 Ohm, Feed polarity: Normal		**Pass**
-52.22 dBPa(A)	-49 dBPa(A)	Pass
Condition 3: Series resistance: 2.8 kOhm, Feed polarity: Reverse		**Pass**
-49.72 dBPa(A)	-49 dBPa(A)	Pass
Condition 4: Series resistance: 500 Ohm, Feed polarity: Reverse		**Pass**
-49.89 dBPa(A)	-49 dBPa(A)	Pass

Test specification:	4.2.7 Instability		
Test purpose:	Instability (sustained audible oscillations), shall not be induced when the volume control is set to give maximum receiving gain.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	3/27/2008 12:06:05		
Temperature:	Air Pressure:	Relative Humidity:	Mains Power Supply:
Remarks:			

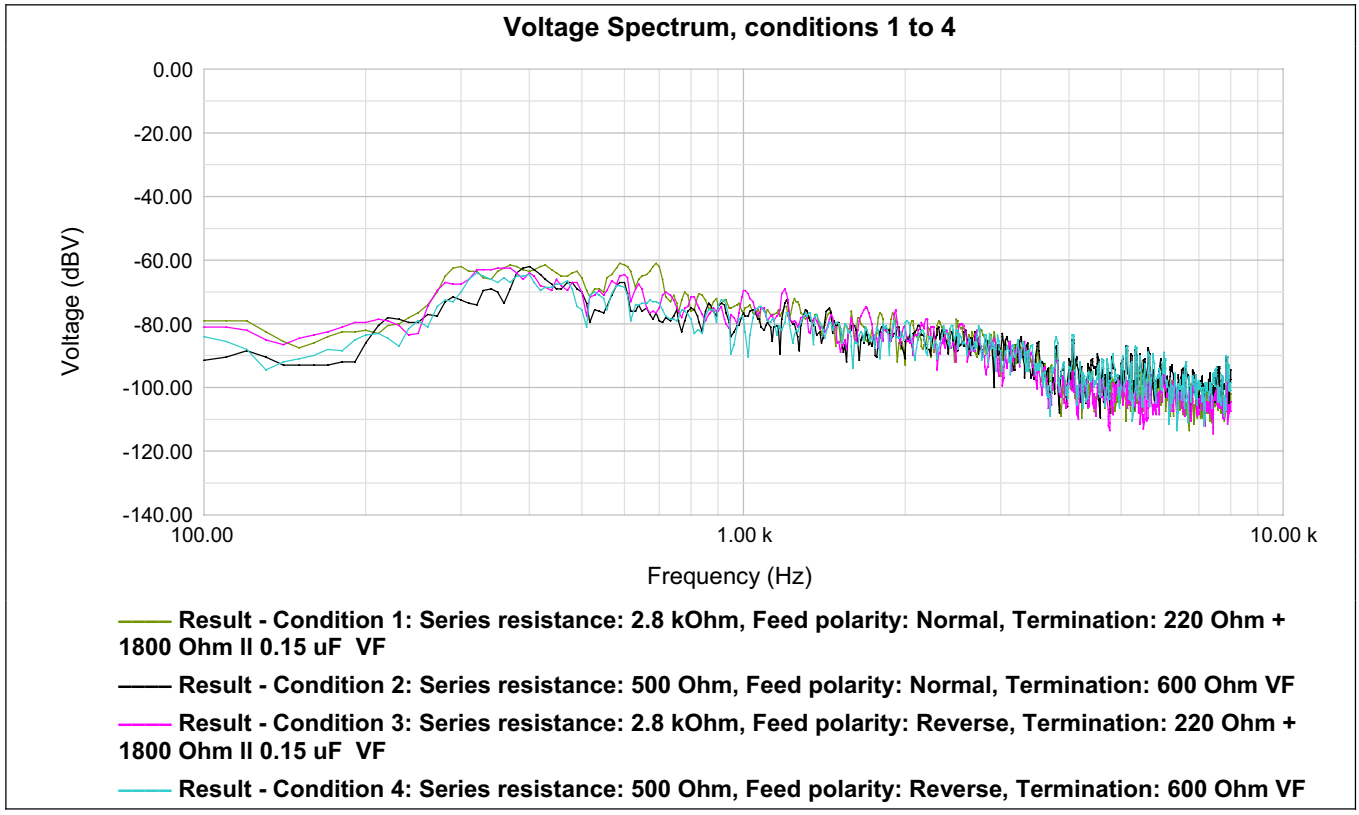
Measurement uncertainty

Expanded Uncertainty, k=2 (95% confidence):

SPL = ±0.23 dB

General parameters

Parameter	Value
Feed voltage	50 V
Artificial network	None
Overall meas. time	10 s



Test specification:	4.2.7 Instability		
Test purpose:	Instability (sustained audible oscillations), shall not be induced when the volume control is set to give maximum receiving gain.		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	3/27/2008 12:06:05		
Temperature:	Air Pressure:	Relative Humidity:	Mains Power Supply:
Remarks:			

Instability

Peak voltage	Limit	Verdict
Condition 1: Series resistance: 2.8 kOhm, Feed polarity: Normal, Termination: 220 Ohm + 1800 Ohm II 0.15 uF VF		**Pass**
-58.61 dBV	-40 dBV	Pass
Condition 2: Series resistance: 500 Ohm, Feed polarity: Normal, Termination: 600 Ohm VF		**Pass**
-63.43 dBV	-40 dBV	Pass
Condition 3: Series resistance: 2.8 kOhm, Feed polarity: Reverse, Termination: 220 Ohm + 1800 Ohm II 0.15 uF VF		**Pass**
-59.67 dBV	-40 dBV	Pass
Condition 4: Series resistance: 500 Ohm, Feed polarity: Reverse, Termination: 600 Ohm VF		**Pass**
-64.56 dBV	-40 dBV	Pass

Instability peak frequency

Frequency	Verdict
Condition 1: Series resistance: 2.8 kOhm, Feed polarity: Normal, Termination: 220 Ohm + 1800 Ohm II 0.15 uF VF	**-**
380.00 Hz	-
Condition 2: Series resistance: 500 Ohm, Feed polarity: Normal, Termination: 600 Ohm VF	**-**
380.00 Hz	-
Condition 3: Series resistance: 2.8 kOhm, Feed polarity: Reverse, Termination: 220 Ohm + 1800 Ohm II 0.15 uF VF	**-**
380.00 Hz	-
Condition 4: Series resistance: 500 Ohm, Feed polarity: Reverse, Termination: 600 Ohm VF	**-**
400.00 Hz	-

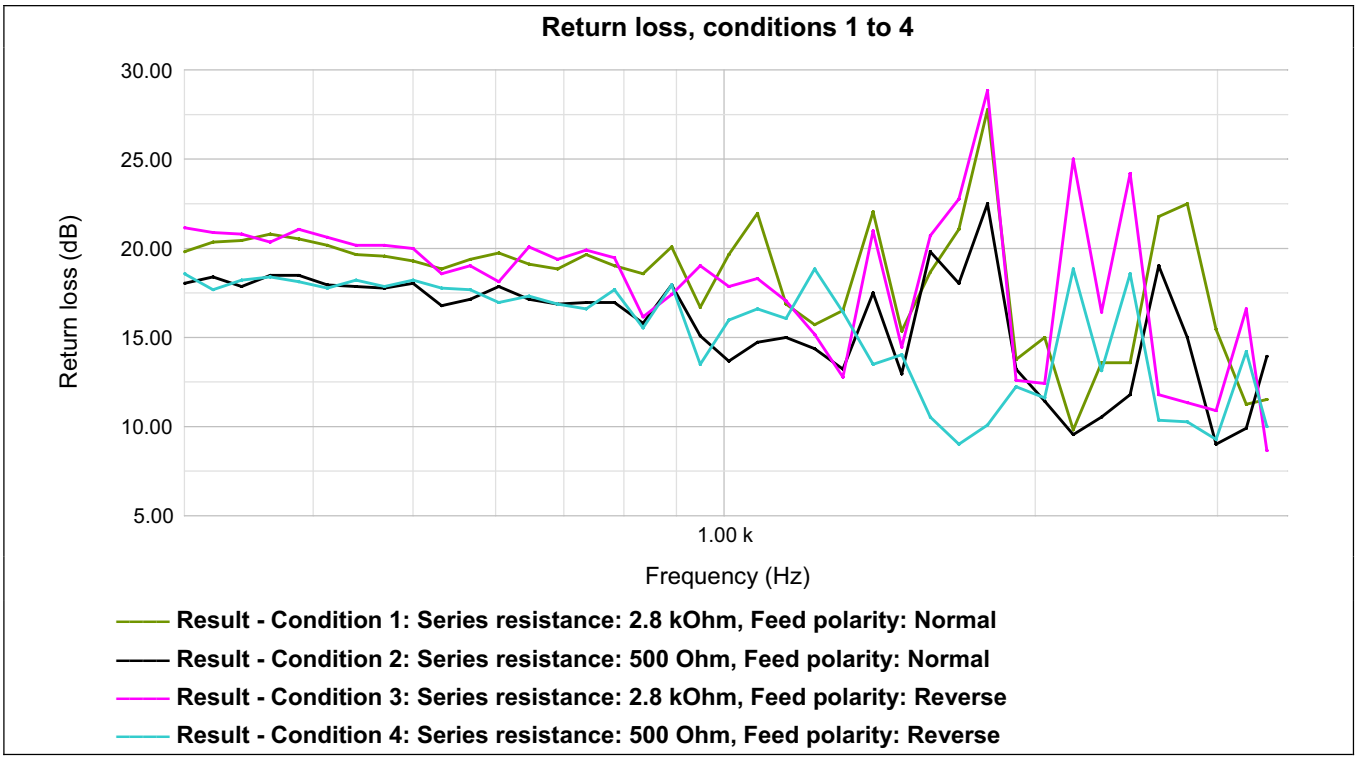
Test specification:	4.2.8 Echo Return Loss		
Test purpose:	The Echo Return Loss (ERL) shall be not less than 14 dB with respect to the reference impedance		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	3/27/2008 12:17:38		
Temperature:	Air Pressure:	Relative Humidity:	Mains Power Supply:
Remarks:			

Measurement uncertainty

Expanded Uncertainty, k=2 (95% confidence) = ±0.49 dB

General parameters

Parameter	Value
Termination	270 Ohm + 750 Ohm ll 0.15 uF VF
Feed voltage	50 V
Gen. level	-18.00 dBV



Echo return loss

Echo return loss	Limit	Verdict
Condition 1: Series resistance: 2.8 kOhm, Feed polarity: Normal		**Pass**
17.01 dB	14 dB	Pass
Condition 2: Series resistance: 500 Ohm, Feed polarity: Normal		**Pass**
14.68 dB	14 dB	Pass

Test specification:	4.2.8 Echo Return Loss		
Test purpose:	The Echo Return Loss (ERL) shall be not less than 14 dB with respect to the reference impedance		
Test mode:	Compliance	Verdict:	PASS
Date & Time:	3/27/2008 12:17:38		
Temperature:	Air Pressure:	Relative Humidity:	Mains Power Supply:
Remarks:			

Echo return loss	Limit	Verdict
Condition 3: Series resistance: 2.8 kOhm, Feed polarity: Reverse		**Pass**
16.54 dB	14 dB	Pass
Condition 4: Series resistance: 500 Ohm, Feed polarity: Reverse		**Pass**
14.22 dB	14 dB	Pass